FEB. 28 1958

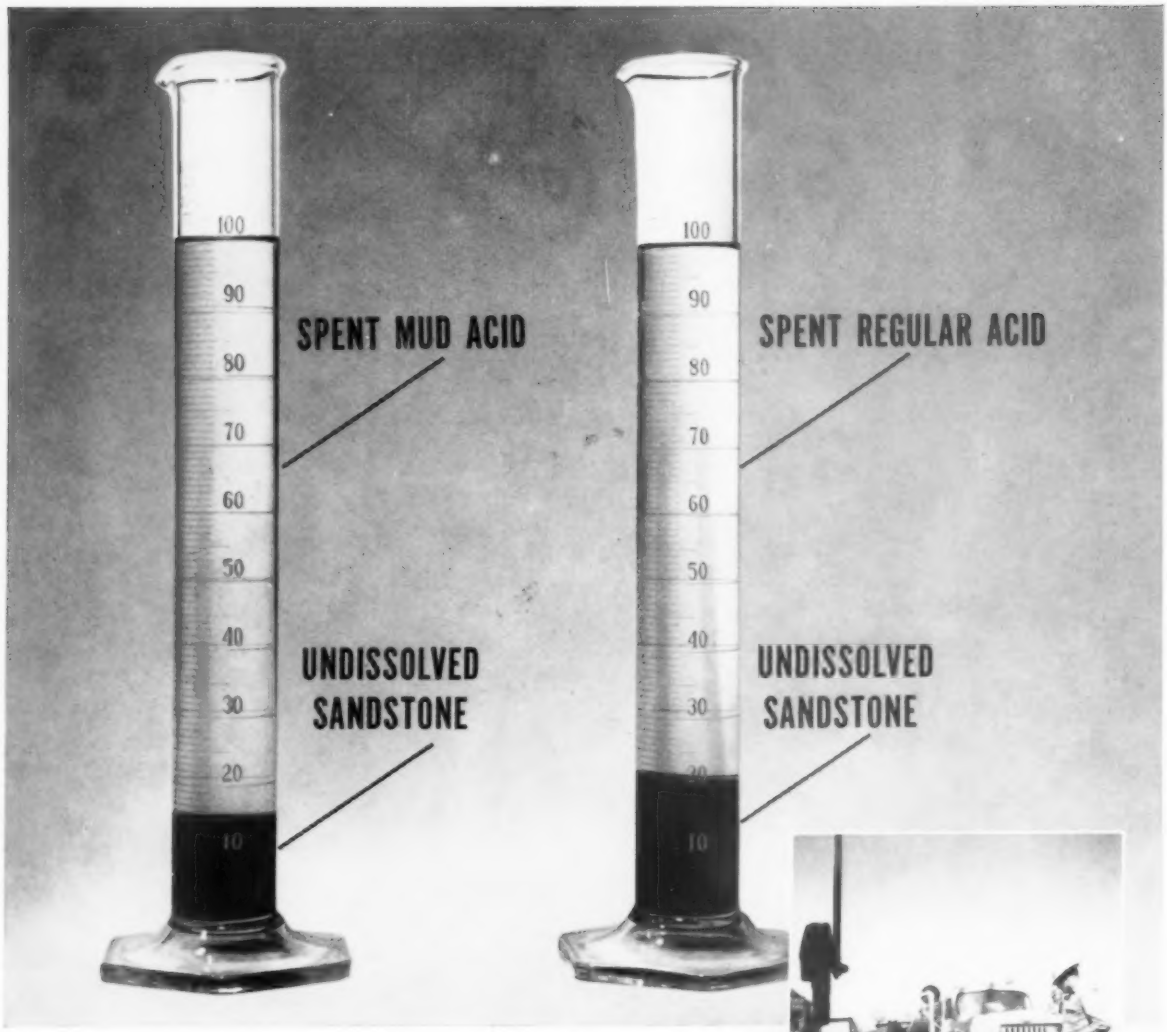
PETROLEUM WEEK

A McGRAW-HILL PUBLICATION

How are oil men faring in other nations? In West Germany, demand is still climbing sharply. As a result, all segments of the oil industry there are full of boom and bustle 12

Will cutbacks check oil's price skid? 11
OCAW sets its '58 bargaining goals 15
Scramble continues for Midwest markets . . 16
Air drilling needs better equipment 23
Microbes may help shale oil recovery 34
Venezuela regulates with a firm hand 40
Honduras tightens concession terms 44
Fuel prices drop despite cold wave 50

Price 50 Cents



Here's Why Mud Acid Gives Excellent Results in Many Oklahoma Wells

This photograph shows why Mud Acid works so well —as a spearhead or wash to precede other treatments, or as an acidizing medium itself. It proves that Mud Acid has the ability to dissolve the clay and other silicates found in sandstone formations and drilling muds.

The graduate on the left contains the undissolved portion of a 10-gram sample of an oil-bearing sandstone formation after being exposed to Mud Acid. The other graduate shows the results of an identical test using regular acid. The Mud Acid dissolved 30 per cent of the sample. Regular acid dissolved only four per cent.

Here's an example of how Mud Acid was used to help an old well completed in the Bromide sand. Production was only 18 bopd and the operator suspected that old mud cake was blocking production. Dowell acidized the well with 500 gallons of Mud Acid, with silicate control agent added.

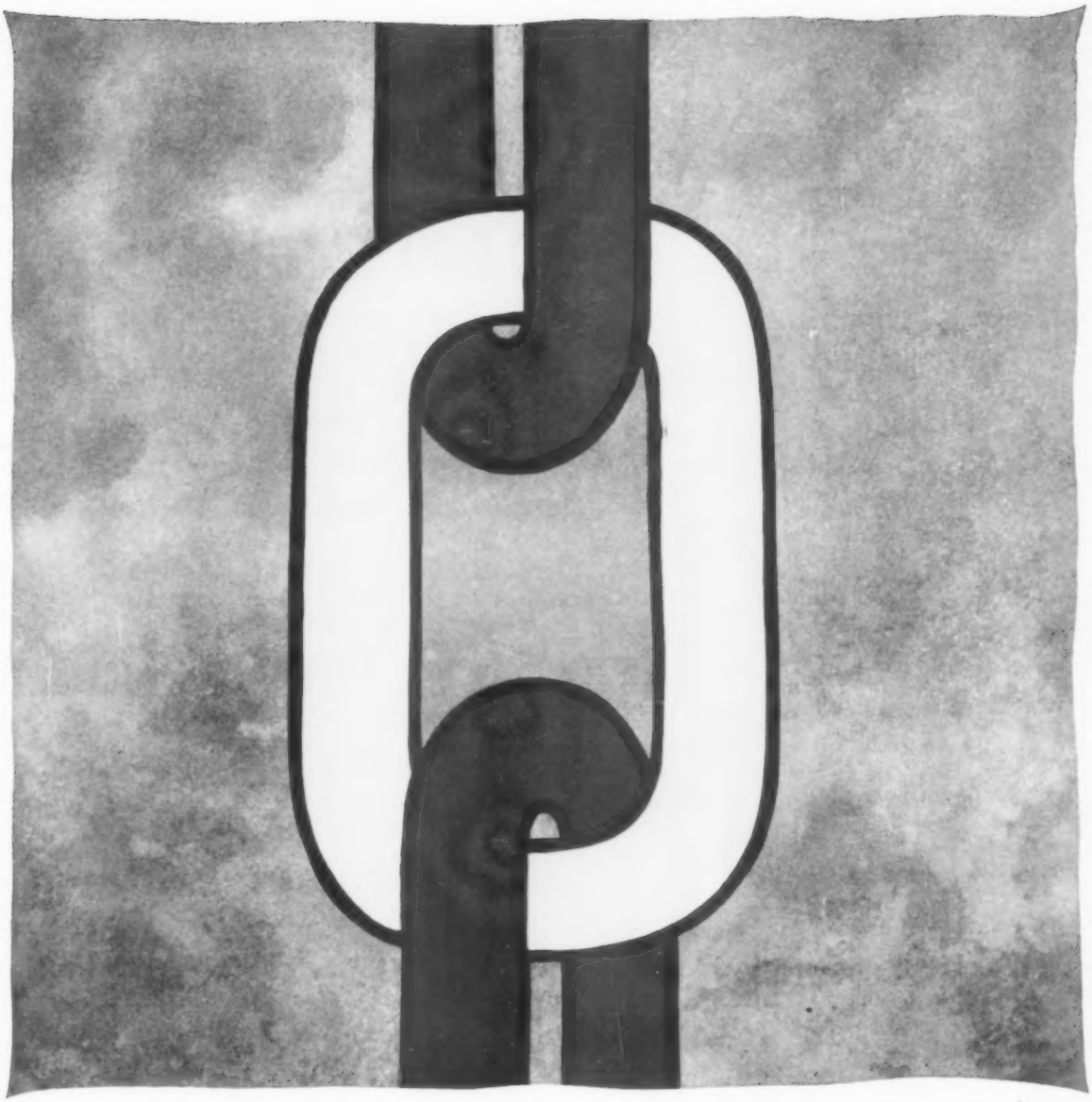
After load oil and spent acid had been swabbed back, *the well flowed 600 barrels of oil in three days.* It is still making its allowable.

Many oil producing formations in Oklahoma exhibit less than 10 per cent solubility in regular acid, and 30 to 60 per cent solubility in Mud Acid. Thus, it is easy to see why Mud Acid gives oustanding results in these formations.

An exclusive formula developed by Dowell, Mud Acid has years of successful application behind it. For service or more information call your nearest Dowell representative. Dowell Incorporated, 165 offices and stations to serve you.

Services for the oil industry — DOWELL

A SERVICE SUBSIDIARY OF THE DOW CHEMICAL COMPANY



LIAISON—Ethyl serves the Petroleum Industry in this role by keeping abreast of developments in the Automotive Industry. This enables your Ethyl Representative to see to it that you learn of the latest automotive developments as they occur.

"ETHYL" (TRADE-MARK) ANTIKNOCK COMPOUND — ETHYL CORPORATION

ETHYL CORPORATION

New York 17, N.Y.

ISOFLOW FURNACES NOW PROCESSING 300,000 b/d IN CATALYTIC REFORMERS

. . . and more "Isoflows" are being installed in the largest reformers under construction

The continuous production of high octane gasoline by catalytic reforming demands sturdy, efficient, soundly designed equipment. This is especially true of furnaces.

The wide acceptance of Petrochem-Isoflow furnaces is due to their high efficiency, dependable performance even under overload conditions, and their long service life. When you apply all the specifications and operating requirements to direct fired furnace design you'll find Petrochem-Isoflows most economically desirable, by any comparison.

For petroleum, chemical and allied process industries there's a Petrochem-Isoflow furnace for any duty, temperature and efficiency.

The unique design and operating features which have led to the wide acceptance of Petro-Chem furnaces include:

- **Uniform Heat Distribution**
- **Maximum Fuel Efficiency**
- **Low Pressure Drop**
- **Low Maintenance**
- **Zero Air Leakage**
- **Minimum Ground Space**
- **Simplicity of Design and Construction**
- **Short Length of Liquid Travel**
- **Series, Multipass, all parallel flow**
- **Excess Draft for High Overload**

PETROCHEM-ISOFLOW FURNACES

UNLIMITED IN SIZE . . . CAPACITY . . . DUTY

PETRO-CHEM DEVELOPMENT CO., INC. • 122 EAST 42nd St., New York 17, N. Y.

REPRESENTATIVES:

Rawson & Co., Houston & Baton Rouge • **Wm. H. Mason Co.**, Tulsa • **Lester Oberholtz**, Los Angeles • **Faville-Levally**, Chicago **D. C. Foster**, Pittsburgh • **Turbex**, Philadelphia • **Flagg, Brackett & Durgin**, Boston • **G. W. Wallace & Co.**, Denver & Salt Lake City

International Licensees and Representatives: SETEA–S.A. Comercial, Industrial, y de Estudios Tecnicos, Buenos Aires, Argentine • Industrial Proveedora, Caracas, Venezuela • Societe Anonyme Heurtey, Paris, France • Societe Anonyme Belge, Liege, Belgium • Poltrochem G.M.B.H., Dortmund, Germany • Heurtey Italiana S.P.A., Milan, Italy • Birwelco Ltd., Birmingham, England

PETROLEUM WEEK

Publisher—Harry L. Waddell

Editor—LeRoy Menzing

Assistant to the Publisher—William F. Bland

Managing Editor—Richard M. Machol

Senior Editors—Glenn Green, Jr. (Houston), Wanda M. Jablonski, Robert E. Spann, John Barton, Robert L. Davidson, Halsey Peckworth

News Editor—Clyde LaMotte

Foreign News Editor—Georgia Macris

Assistant Editors—John Paluszek, Ade Ponikvar, Betty Deane Suiter

District Editors

Bakersfield—William Rintoul
Chicago—Randall Walthius
Houston—Eugene Bush
Tulsa—William P. Sterne

Presentation—William A. Caperell, Jr., director; Mildred Schutte

Editorial Assistants—Larry Christiansen, Jr., Vivian Lunardi, Barbara Farnsworth, Dorothy L. LeWin, Robert J. Barrett (Chicago)

Domestic News Service

Atlanta Bureau—Charles T. Dixon, chief, Frances Ridgway
Cleveland Bureau—William G. Meldrum, chief, Michelle M. Perry
Dallas Bureau—Kemp Anderson, Jr., Lorraine Smith
Detroit Bureau—Donald MacDonald, chief, Nancy Ann Moore
Los Angeles Bureau—John K. Shinn, Michael J. Murphy
San Francisco Bureau—Margaret Ralston, chief, Jenness Keene, Sue Johnson
Washington Bureau—George B. Bryant, Jr., chief, Glen Bayless, Ernest Conine, A. R. Patla, D. O. Loomis, Roy Calvin, N. B. Musselman, Dean Reed, Arthur Kraft, Seth Payne
Correspondents: Albuquerque, Austin, Baton Rouge, Billings, Bismarck, Calgary, Casper, Cheyenne, Corpus Christi, Denver, Edmonton, Farmington (N.M.), Ft. Worth, Great Falls, Honolulu, Jackson (Miss.), Lake Charles, Memphis, Midland, Minneapolis, Mobile, Montreal, New Orleans, Odessa, Oklahoma City, Philadelphia, Phoenix, Pittsburgh, Portland (Ore.), Regina, Sacramento, Salt Lake City, San Diego, Seattle, Shreveport, Spokane, Vancouver, Winnipeg

Foreign News Service

Middle East Bureau—Onnic Marashian, chief
Caracas Bureau—John Pearson, chief
Bonn Bureau—Morrie Helitzer, chief, Thomas Berendt, Silke Brueckler
London Bureau—William Coughlin, chief, John Tunstall, Robert Gibson
Mexico City Bureau—John H. Kearney, chief
Paris Bureau—Robert E. Farrell, chief, Helen Avati
Rio de Janeiro Bureau—Peter Weaver, chief
Tokyo Bureau—Dan Kurzman, chief
Correspondents: Amsterdam, Baghdad, Beirut, Bogota, Bombay, Brussels, Buenos Aires, Cairo, Columbo, Djakarta, Geneva, Guatemala City, Havana, Helsinki, Instanbul, Johannesburg, Karachi, La Paz, Lima, Manila, Melbourne, Rangoon, Rome, San Jose, Stockholm, Vienna
Manager, McGraw-Hill World News Service—John Wilhelm

Economics Staff

Dexter M. Keezer, director; Robert P. Ulin, T. C. Boyden

Business Department

Advertising Sales Manager—Ervin E. DeGraff; *Western General Manager*—Donald O. Hanson; *Acting Circulation Manager*—Harriet Costikyan; *Promotion Manager*—N. F. Cullinan; *Advertising Service Manager*—John E. Thompson; *Research Manager*—Leo M. Murray; *Reprint Service*—Mary C. Murphy; *Southwestern Research Manager*—George Reid

Other McGraw-Hill Petroleum Publications

National Petroleum News — Platt's OILGRAM News and Price Services

PETROLEUM WEEK

FEBRUARY 28, 1958
Vol. 6 No. 9

Number of copies of this issue printed: **45,009**

Published weekly by McGraw-Hill Publishing Co., Inc. James H. McGraw (1860-1948), founder. Publication office: 871 N. Franklin St., Chicago 10, Ill. See panel below for directions regarding subscriptions or change of address.

Executive Editorial, Circulation and Advertising offices: 330 W. 42nd St., New York 36, N. Y. Donald C. McGraw, President; Joseph A. Gerardi, Executive Vice President; L. Keith Goodrich, Vice President and Treasurer; John J. Cooke, Secretary; Nelson Bond, Executive Vice President, Publications Division; Ralph B. Smith, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; A. R. Venezian, Vice President and Circulation Coordinator.

Subscriptions are solicited only from executives, supervisors, and such technically trained personnel as engineers, geologists, chemists, etc., in the oil and natural gas industries, who are engaged in exploration, drilling, producing, processing, petrochemical manufacture, transportation, or wholesale marketing. **Position and company connection must be indicated on subscription orders.** Subscription rate for all countries $3 per year. Single copies 50c. Second class mail privileges authorized at Chicago, Ill. Printed in U.S.A. Title registered in U. S. Patent Office.

© Copyright 1958 by McGraw-Hill Publishing Co., Inc. All rights reserved.

Subscriptions: Address subscription correspondence and change of address to Subscription Manager, Petroleum Week, 330 W. 42nd St., N. Y. 36, N. Y. On address changes, please give old and new address and zone numbers, if any, and enclose an address label from a recent issue if possible. Please allow one month for change to become effective.

Postmaster: Please send form 3579 to Petroleum Week, 330 W. 42nd St., New York 36, N. Y.

LUCEY Export

OIL INDUSTRY EQUIPMENT and SUPPLIES

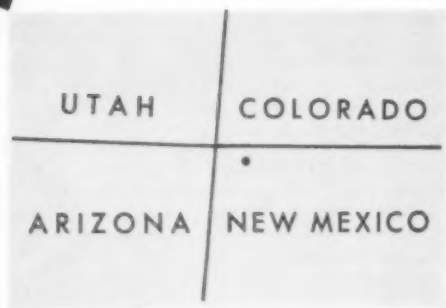
DRILL PIPE
CASING • TUBING
TUBE-KOTE PLASTIC COATINGS
DRILL COLLARS
DRILLING RIGS
MUD PUMPS
BRAKE BLOCKS • CHAIN
WIRE ROPE
TOTCO DRIFT AND DIRECTIONAL RECORDERS
ROCK BITS
VALVES AND FITTINGS
BOTTOM HOLE HEATERS
BOLTED TANKS

LUCEY

LUCEY EXPORT CORP
233 BROADWAY, NEW YORK 7, N. Y.
Prelecca Avenida Los Haticos, 116
Maracaibo, Venezuela
Calle Defensa 320, Buenos Aires, Argentina
Broad Street House, London E.C.2, England
Rue do Carmo, 27-7°, Rio de Janeiro, Brazil
Calgary and Edmonton, Alberta, Canada
West Building, Houston, Texas

Good Things Come in Pairs . . .

1 To Serve The Four Corners Area . . .



Farmington, New Mexico
2505 East Main Street Phone DAvis 5-7545

2 To Serve Arkansas, Louisiana, Texas . . .

Shreveport, Louisiana
149 Thomas Drive Phone 3-8493

SUPPLY BOVAIRD COMPANY

OFFICES AND STORES
ILLINOIS — Clay City, Grayville, Mt. Vernon, Salem
KANSAS — Chase, Great Bend, Liberal, Pratt, Russell, Wichita
LOUISIANA — Shreveport
NEW MEXICO — Farmington, Lovington
OKLAHOMA — Duncan, Oklahoma City, Pauls Valley, Pawhuska, Sapulpa, Tulsa
TEXAS — Abilene, Amarillo, Borger, Dallas, Houston, Midland, Odessa, Pampa

PESA

TO GET WHAT YOU WANT
WHERE YOU WANT IT
WHEN YOU NEED IT . . .
AT REASONABLE
COMPETITIVE PRICES

"Buy From Bovaird"

THE Bovaird SUPPLY COMPANY

GENERAL OFFICES
TULSA, OKLAHOMA

87 YEARS OF PROGRESS WITH THE OIL INDUSTRY

60-Second Summary / WHAT'S HAPPENING IN OIL

February 28, 1958

dept/INDEX

Production	23
Transportation	37
Processing	34
Marketing	42
Washington	18
Statistics	49
The Market Trend	50
Key Prices	51
Editorial	54
International	44
Personals	47
Petroleum Comments	40
Service & Equipment	52

The radical cuts made in March allowables are too late to save a lot of crudes from lower postings. This week the crude price cuts spread to Louisiana. And indications are that more downward adjustments will be made. . . . p. 11

•

Concern over layoffs is evident in OCAW's new bargaining program. The largest oil union wants a wage hike—3.5%—but it's emphasizing "anti-layoff" measures. . . . p. 15

•

Producers, hit hard with low allowables and purchaser cutbacks, are demanding mandatory control of imports. And they are getting assists from state officials. . . . p. 11

•

Despite changes in governments, Venezuela maintains a remarkable degree of stability in its oil policies. This is due largely to the competent direction of the Bureau of Hydrocarbons, guardian of the nation's chief asset. . . . p. 40

•

The development of better equipment needed for air and gas drilling is being handicapped by a lack of demand. That's the report of a drilling contractors group. . . . p. 23

•

Oil men in West Germany have few of the headaches that nag their U.S. counterparts. Imports duties keep crude prices high, and rising demand sets the stage for an aggressive refinery expansion program. . . . p. 12

•

A new oil law in Honduras may reduce the holdings of two groups of U.S. independents. The new measure places definite limits on areas under exploration. . . . p. 44

•

Ethyl Corp. is kicking off a campaign to encourage pleasure driving and boost sagging gasoline demand. It's the fourth such program, but the biggest effort yet. . . . p. 42

•

Louisiana may double the fees pipelines pay for rights-of-way on state lands. It will be discussed next week, but the fees can be hiked without hearings. . . . p. 37

•

The scramble to get into the Midwest continues. Continental Oil says it will buy into Ohio Oil's new products line. . . . p. 16

•

The use of aluminum in drilling and production operations will rise more than 500% within three years. That was the prediction to producers meeting in Houston this week. . . . p. 25

Up to the Minute / SIGNIFICANT LATE NEWS

AT-A-GLANCE PETROLEUM WEEK

February 28, 1958

U. S. oil demand, though sagging now, is expected to jump more than 85% by 1975. That's the forecast in a new McGraw-Hill Economics Dept. study of growth trends of the nation's economy. Based on population growth, productivity, and income trends, it sees these changes:

- **Natural gas will grab an increasing share of the home heating market.** Most gas production may go for that purpose, leaving cheaper uses such as in chemicals and power generation to other fuels.

- **Most of the domestic crude will probably be converted—by improved techniques—into chemicals, gasoline, and lubricants.** Lower-value fuels will be derived from imports.

- **High-value products from U. S. crude will justify the increasing costs of finding and producing domestic oil** and, if necessary, use of oil from shale.

•

President Eisenhower still favors the Harris natural gas bill. He said this week that the much-publicized "Porter letter" incident had not changed his views on the merits of the bill. But, he added, he hopes the incident is an isolated type of thing that will not be repeated.

•

Sale of Universal Oil Products Co. stock has been recommended to the New York Supreme Court. A referee's report says UOP should continue to service all refiners for 10 years. Stock sale to any one investor would be limited to 2%. The referee vetoed Guaranty Trust Co.'s request for a 10% fee from the sale—estimated at $50-million. A "reasonable" fee was suggested.

•

A producer "revolt" against crude price cuts was shaping up in a South Texas area this week. Six producers in Maverick and Dimmit Counties said they won't accept a 50¢ a bbl. cut posted by their purchaser. Only about 2,000 b/d are involved, but the producers hope others will follow their lead.

•

A quadruple completion well became a reality this week. It is Magnolia's No. 8 Santa Cruz Farm in the San Carlos field, Hidalgo County, Tex. A gas flow of from 3-million to 4-million cu. ft. daily from each zone is estimated.

•

The sharp cuts in allowables may lead to an end of purchaser proration. Cities Service will resume its full take of crude in Texas, Louisiana, and New Mexico Mar. 1. It had prorated to 70% of its January runs since Feb. 15.

•

Indications in Washington are that the voluntary control plan may be given "one more try," despite growing pressure for mandatory control. A year's extension is being considered by a Cabinet oil committee.

Congrats and $25 to LEE BLACKER, 843 Belmont Ave., Long Beach, California.

"...ready to swab!"

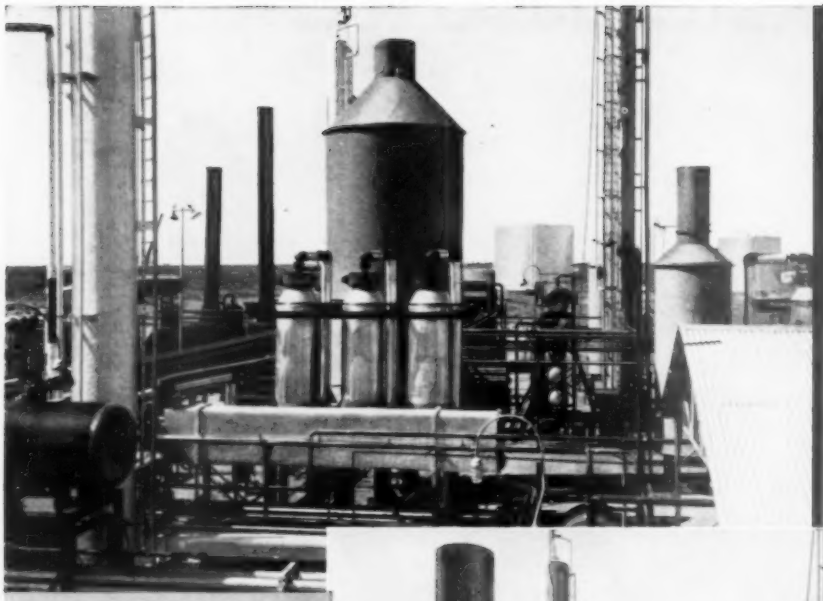
Any swab who's worth his salt . . . knows that Lone Star casing, tubing and line pipe is representative of steel pipe at its API best.

The mammoth Lone Star Steel plant . . . complete and quality-controlled from ore to finished pipe . . . was dedicated from the first as a dependable source of supply for Joe Roughneck, symbolic heart of the oil and gas industry. Every length of Lone Star API pipe is fully normalized.

Neighbor, wherever you are, specify Lone Star and we both get a good deal.

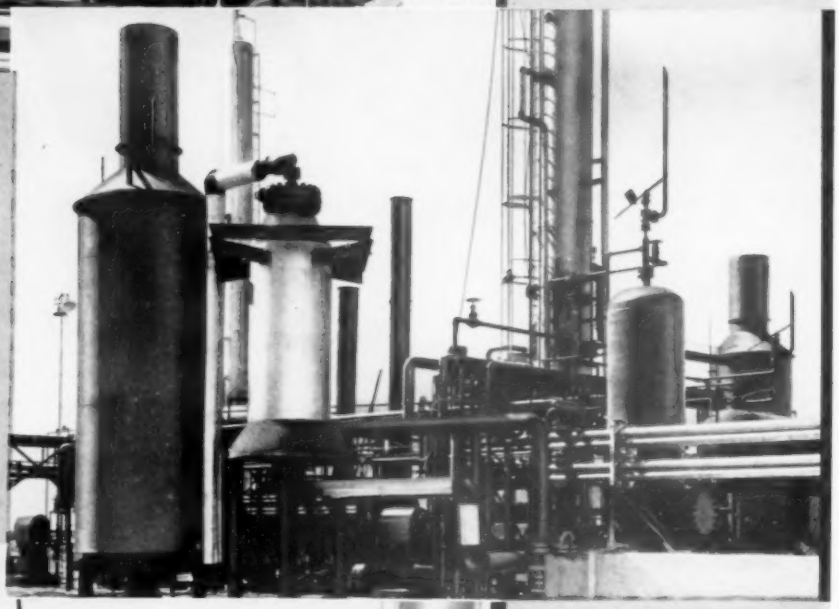
Lone Star STEEL
COMPANY

EXECUTIVE—SALES OFFICES
W. Mockingbird Lane at Roper • P. O. Box 12226 • Dallas, Texas
DISTRICT SALES OFFICES
912 Republic National Bank Building, Dallas, Texas
Houston, Texas | Midland, Texas | Tulsa, Oklahoma



The vessel in the center is a gas fired updraft heater serving our Platforming unit. Three smaller vessels immediately in front of the heater are the Platforming reactors.

The vessel on the left is a heater and the structure on the right is a reactor of the UOP Unifining unit used in preparing the feed for our Platforming unit.



Shown here is the circular updraft heater and three reactors of our Platforming unit. Here you have an excellent view of the great New Mexico desert.

Famariss Produces High Octane Products From Platforming-Unifining Units

By Walter Famariss, Jr.
President
Famariss Oil and Refining Company
Hobbs, New Mexico

We have perhaps one of the smallest refineries marketing a finished product on the local level. Regardless of our size we are aware of our responsibility to offer customers a high octane number product consistent with the demands of today's high compression automobiles. Our search for a process to give us a high quality product plus low initial and operating costs led us to the Platforming process. In 1955 we placed on stream a 750 B/SD Platforming unit. To prepare the feed for the Platforming unit a 1000 B/SD Unifining unit was also installed.

Walter Famariss, Jr.

Famariss Raises Octane Number

With the addition of these units we were able to increase the octane number of our straight run gasoline from 68 RON to 97-98 RON giving our customers a quality product meeting the highest standards in our area. These new units enabled us to boost our total refinery throughput to 2,250 B/SD. Presently we are planning to expand our capacity 50 percent. Catalytic Cracking and additional Unifining facilities are processes being considered. The additional Unifining unit will be used for the treating of intermediates permitting us to enter new markets, thus substantially increasing the value of these products.

Growth Necessitates New Facilities

Perhaps you would be interested in our early growth and problems prior to the installation of the Platforming-Unifining units. Famariss Oil and Refining Company was formed in 1947 as an outlet for the marketing of a small amount of crude I was handling in this area. In 1949 we leased a small refinery at Monument, New Mexico, and in August we started operation of the refinery processing 450 barrels of oil per stream day. Market demands quickly exceeded this production. We therefore gradually increased production to the refinery's apparent maximum limit of 750 B/SD.

During this period all of our production was sold to other refineries for further processing. In 1951 we completed facilities for adding tetraethyl lead and the consequent tankage to enable our refinery to manufacture finished gasoline. We were then able to sell our motor fuel locally. So successful was our operation that in 1952 we purchased the Monument refinery from the leasor. We dismantled the refinery and moved the various structures and equipment one-half mile to a new location on our property. In just 90 days we were once again in production; this time throughput was increased to 1,200 B/SD.

UOP Aids In Solution Of Process Problems

But soon again we faced the problem of increasing production to meet the rising demands of our marketing area—an area which includes all of New Mexico, West Texas and the eastern portion of Arizona. Yes, demand for our motor fuel was increasing but so were compression ratios of automobiles requiring a higher and higher octane number gasoline. This can be an excessively costly problem for a small refiner. In this regard we met with engineers of Universal Oil Products Company, licensor of petroleum refining processes. UOP analyzed our needs in view of our economic and financial framework and suggested the Platforming unit—with a Unifining unit to prepare the feed stock for more efficient processing in the Platformer. We are happy to report that this was an ideal solution. Originally designed for research octane number production of 93.5 we were able to produce a gasoline of 97-98 research octane number by increasing the severity rate somewhat, yet allowing for further octane number increases if desired.

In Operation

The charge to the combination Platforming-Unifining unit—60% locally produced condensate and 40% straight-run gasoline—is prefractionated to produce a 150-400° F., 56° API heart cut. This is the liquid portion of the feed to Unifining. Excess hydrogen (from Platforming) joins this stream, is preheated, brought to reaction temperature in a fired heater, then enters the reactor and subsequently, a high pressure separator. Here any excess hydrogen is vented to the fuel gas system. The liquid product goes to a low pressure separator and thence to a stripper where the H_2S is removed overhead. The bottom product is the Platformer charge.

Our company is marketing three grades of gasoline—premium, regular and government grade. Bottoms from the prefractionator are being marketed as sand fracturing oil, which is finding increasing usage in revitalizing low producing oil wells.

Here at Famariss Oil and Refining Company we are looking into the future confident that whatever the motor fuel requirements of our customers may be we will continue to produce products meeting the highest competitive standards.

Octane number of straight run gasoline increased nearly 50% for Famariss with UOP Platforming® and UOP Unifining* processes

designed, engineered and licensed by

UNIVERSAL OIL PRODUCTS COMPANY

UOP

® 30 ALGONQUIN ROAD
DES PLAINES, ILL., U.S.A.

More Than Forty Years Of Leadership In Petroleum Refining Technology

*Trademark

"We feel a responsibility to participate in the development of friendly foreign nations. Our participation is a practical and efficient supplement to our government's foreign aid program; we help to create understanding and respect for American ways and customs in foreign lands. And we believe that expanding international trade is of vital interest to our country's welfare and to world peace."

Eugene Holman, Chairman of the Board, Standard Oil Company (New Jersey)

Esso

STANDARD OIL COMPANY (NEW JERSEY)
AND AFFILIATED COMPANIES

Pleas Grow for Rigid Controls Of Oil Imports

Demands for a turn to mandatory controls on oil imports are snowballing among domestic producers and some oil-state regulatory officials.

Despite the comments from government officials in Washington that the voluntary plan is working out close to schedule, leading producer associations say flatly that it has failed.

The strongest plea yet for rigid controls came last week from Ernest O. Thompson, who also suggested an immediate 20% cutback in total imports.

Thompson, senior member of the Texas Railroad Commission, and long an advocate of voluntary controls, met with Commerce Secretary Sinclair Weeks at the latter's invitation.

"I told him we've tried voluntary control and it hasn't worked," Thompson said. "I recommended a mandatory control program, with an immediate 20% cut in imports straight across the board."

Thompson also suggested to Weeks that if new importers are granted quotas, the allocations of older importers should be reduced accordingly.

The new importers' applications will be one of the most pressing problems to be faced by the special Cabinet Committee on Oil Imports when it meets next week (page 18).

Some Texas independents favor an "equalization" tariff as the most desired form of control, but would consider alternative restrictions.

That proposal came from the executive committee of the Texas Independent Producers & Royalty Owners Assn.

Other alternatives it recommended are: (1) quotas or a quota-tariff combination, or (2) source-country quotas, under which importers would bid competitively for import privileges.

The Independent Petroleum Assn. of America, which has spearheaded the drive of producer groups for restrictions on imports, renewed its plea for mandatory controls this week.

Late Allowable Cuts Fail To Halt Lower Postings

The oil industry enters March pledged to hold its domestic operating rates to the lowest levels in several years, in what many experts term a last-minute effort to prevent a collapse in the general price structure.

The cutbacks for March, some of which are already in effect, mean that:

- Domestic crude output for the month may decline to about 6.2-million b/d, which would be the lowest since August, 1952.
- Crude runs to refineries, based on the announced cutbacks, may be at the lowest level since mid-1954 when they ranged between 6.7-million and 6.8-million b/d.

The most significant cut in crude production will occur in Texas, which slashed the March allowable by 518,814 b/d to an initial rate of 2,517,249 b/d.

Indications are that the resulting March crude output in Texas will be at the lowest level since December, 1950, based on the nine-day schedule generally permitted for March.

In Louisiana, the 48,140 b/d cut in the March allowable is expected to trim actual crude production to around 710,000 b/d.

And in Oklahoma, March crude output is estimated to average about 515,000 b/d.

There are no indications yet that imports will be cut, however.

Companies reporting to the Texas Railroad Commission last week said their crude imports through June will run close to the current rate. In mid-February, total imports were at a new peak of nearly 1.9-million b/d.

And despite the sharp cuts in operating rates, the general level of crude and product prices continue on shaky footings, particularly for crude and condensate, with price cuts continuing to spread to new areas.

This week Magnolia Petroleum Co. initiated a price cut for crude and condensate in the Cameron Meadows field, Cameron Parish, southern Louisiana, the first cut by a major buyer in that state.

Effective Mar. 1, Magnolia is cutting Cameron Meadows crude by 15¢ a bbl. to a new top posting of $3.35 a bbl. for 40-gravity and above. The company also is putting condensate it buys in the field on a flat posting of $3.20 a bbl., off 25¢.

On Feb. 1, Atlantic Refining Co. put Texas Gulf Coast condensates on a flat posting of $3.20 a bbl. and made an initial posting of $3.20 a bbl. for condensate it buys in Beauregard Parish, La.

The only previous crude price cut in Louisiana was made Feb. 15 by Ingram Oil & Refining Co., which cut its price 40¢ a bbl. on about 1,500 b/d.

Cosden Petroleum Corp. and its subsidiary, Col-Tex Refining Co., has announced cuts on about 13,000 b/d of West Texas crude. Col-Tex cut postings 15¢ a bbl. on about 7,000 b/d it buys in the Chalk and East Howard areas of Howard and Glassock counties, reducing its top posting to $2.87 a bbl. for 40-gravity oil. And, effective Mar. 1, Cosden will reduce by 25¢ a bbl. the price it pays Southwestern Hydrocarbon Pipe Line Co. for 6,000 b/d of crude it gathers in the northern portion of Mitchell and in the southern portion of Howard counties.

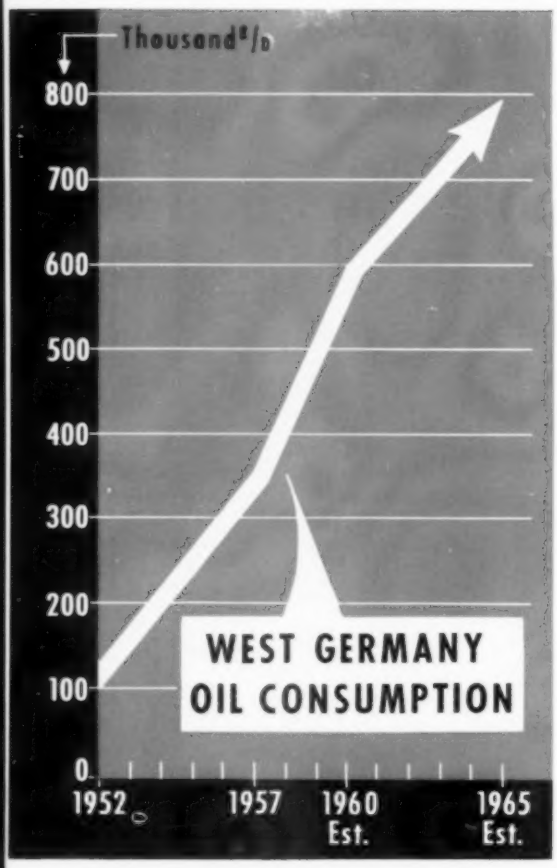
Cities Service Oil Co. adjusted its postings in several areas. Effective Feb. 24, Scurry County crude was put on the intermediate price schedule, cutting the posting 7¢ a bbl., to a top price of $2.95 with a 3¢ differential downward in the gravity scale.

The company also cut 2¢ a bbl. for each degree from 44.9-gravity to 55-gravity on intermediate crudes in West Central Texas, West Texas, and New Mexico.

Last week's extremely cold weather over a large part of the important fuel-oil-consuming East Coast and Midwest failed to strengthen distillate or heavy fuel prices.

In fact, some prices declined, despite a very noticeable upturn in demand.

Over-all inventories of crude and products are estimated by Railroad Commissioner Ernest O. Thompson to be 112-million bbl. above "adequate requirements."



- Demand in West Germany almost tripled in the past five years, and it may double the present total by 1965.
- Industrial expansion has created a big market, and the number of automobiles is increasing rapidly to boost gasoline use.
- These demand factors create a happy situation for German refiners, touching off a big refinery expansion program in an effort to reduce extensive product imports.
- Producers are doing all right, too. They have no proration worries, and they're getting a fat $5.40 a bbl. for crude because of high import duties.

Growing Oil Demand Keeps Ge

U.S. oil men, in the throes of slackening demand, can turn an envious eye toward the oil industry in West Germany, where demand is still as zestful as Rhine wine.

(Germany's area and population are both just about ⅓ of those of the U.S.)

Germany's dramatic postwar industrial comeback and increasing motorization have pushed oil demand continually upward.

Oil consumption there nearly tripled from 1952 to 1957, rising from 130,000 b/d to about 350,000 b/d. And it is expected to more than double again by 1965—possibly reaching a total of 800,000 b/d.

Oil is cutting in on coal's long domination of Germany's energy market.

In 1950, oil had only a 5% share of the market. But it is expected to take over 20% by 1965.

Originally, oil was only expected to fill the gap left by coal, Germany's traditional power source. But now oil is challenging coal for a larger slice of the total energy market. Quite a few plants are switching from coal to oil.

In fact, demand for oil is so worrying the coal industry that coal's latest price boost, slated for Apr. 1, has been canceled (PW—Feb.21'58,p105).

To meet the soaring demand, the German oil industry is undertaking an unprecedented expansion program, with a price tag of above $1-billion.

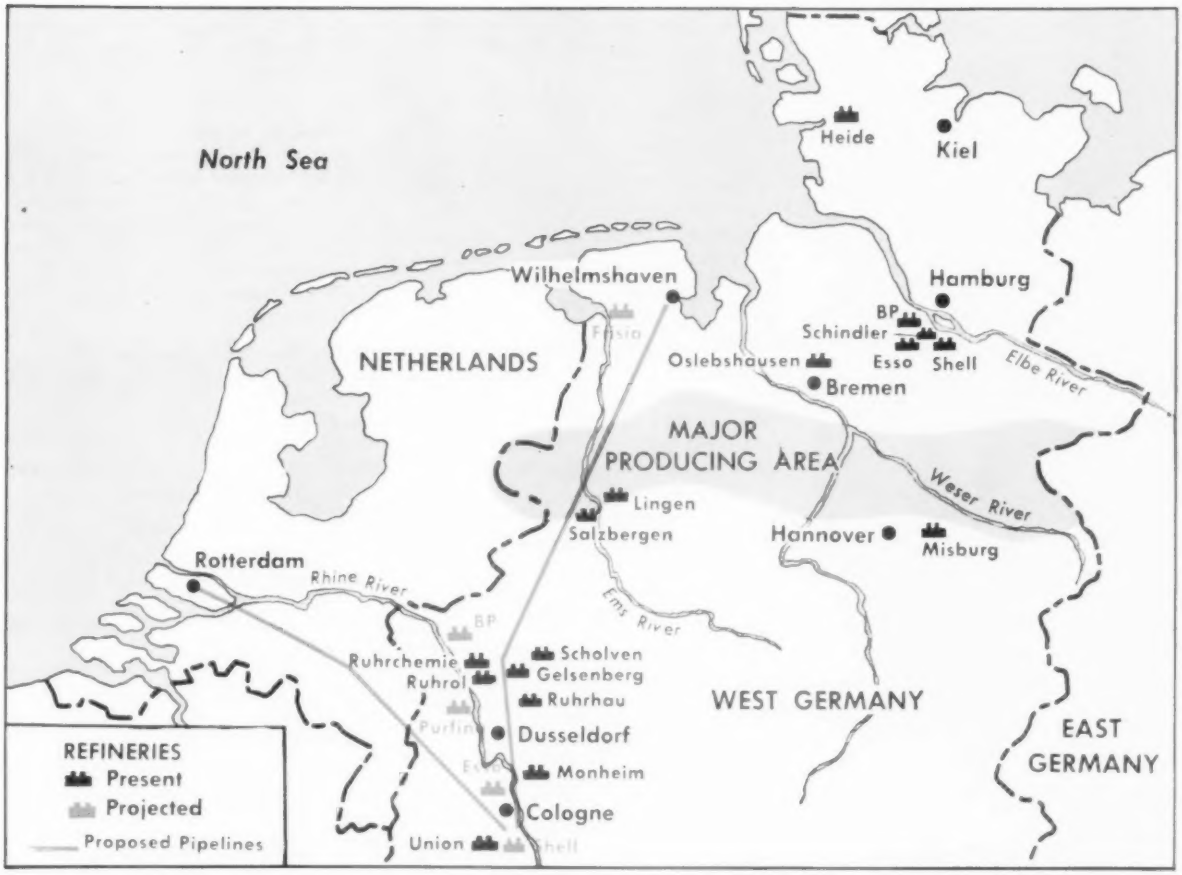
This cost estimate breaks down into a $660-million to $715-million chunk for increased refining capacity, plus $360-million to increase domestic production and expand existing transport facilities.

Refining capacity is expanding at a faster rate than in the U.S. It has already quadrupled since 1950, to over 300,000 b/d. And one major oil company reports capacity will have to be boosted to 640,000 b/d by 1960-61, and to 900,000 to 1-million b/d by 1965 to meet demand.

New refineries will soon be consuming whopping amounts of crude imports, which now total a little under 200,000 b/d. Crude imports are expected to quadruple, to as much as 900,000 b/d, by 1965, to account for roughly 85% to 90% of German refinery runs.

About 86% to 88% of crude imports today come from the Middle East. Venezuela is supplying about 10%.

Imports of refined products are expected to be drastically reduced as the refinery expansion program progresses. These imports ran about 70,000 b/d in 1956, plus close to 4,000 b/d from East Germany and about



NO OIL RECESSION is in sight in West Germany. Therefore, expansion plans are moving at a rapid clip.

German Industry Booming

28,000 b/d imported in bond for bunkering. Roughly 68% of the imports are fuel oils, coming primarily from Venezuela and the Dutch West Indies. About the equivalent of ⅓ of this is reexported—65% going to Scandinavia.

Within the next ten years, Germany is expected to be self-sufficient in refined products.

Demand in Germany is following the same pattern as in the rest of Europe: The bulk of new demand is for heavy fuel oil—unlike the early postwar days, when gasoline was the main prop.

Germany is a heavily industrialized nation, like the U.S., and needs energy for its growing industry. Fuel oil consumption was insignificant until a few years ago.

Now demand is rapidly pushing fuel oil toward the No. 1 spot. And removal of an import duty about a year and a half ago is giving added emphasis to the push.

Consumption of fuel oil, excluding bunkers, is expected to jump some 350% by 1967, as follows: from 69,460 b/d in 1957 to 91,096 b/d in 1958, to 110,930 b/d in 1960, and to 245,370 b/d in 1967.

Unlike the U.S., Germany refiners do not have to emphasize a high proportion of gasoline output. In Germany, roughly 25% of refinery yield is gasoline, compared with 40% in the U.S.

This demand pattern has one advantage: Because most new refineries will not have to have cracking facilities, construction costs can be held to a minimum.

However, the octane race does exist in Germany, as in the U.S., and stress on product quality is growing. Hence, many of the new plants will be equipped with cat reformers for the higher-octane gasolines needed, and with desulfurization units because of the high sulfur content of Mideast crudes.

Here are new refining plans the four international majors are making in Germany:

- **Esso AG, Hamburg, will build a 70,000 b/d plant** near Cologne, to go on stream in the first quarter of 1959. The cost: about $50-million. Some 40% of its output will be fuel oil. There is a possibility that capacity of this plant will be boosted to 150,000 b/d by 1961-62.

- **A British Petroleum subsidiary will build an 80,000 b/d plant** near Dinslaken at a cost estimated at $85-million. Construction will get under way this year. Completion is slated for 1960. It will yield 45% fuel oil, 30% medium distillates, and 10% gasoline.

- **A Royal/Dutch Shell subsidiary will build an 80,000 b/d plant** in Godorf, to be enlarged later to 140,000 b/d. Cost: $63-million. The plant is slated to go on stream in 1960. More than 50% of its output will be fuel

PLAYING CATCH-UP. Germans are pushing their refining capacities.

oil. Shell is also planning a boost to 40,000 b/d at its Harburg-Hamburg site.

• **Socony is planning a boost at its Bremen refinery**—from 16,000 b/d to 30,000 b/d.

Independent refiners—there are about 17 of them—are playing a big role in Germany. They, too, are expanding facilities.

• Deutsche Erdol AG, Germany's biggest independent, is reportedly planning a 60,000 to 70,000 b/d plant near Karlsruhe.

• A subsidiary of the Belgian Petrofina has started building a 20,600 b/d refinery near Duisburg. It is slated to be expanded later to 60,000 b/d. Completion is scheduled for May, 1959. It will produce 45% heavy fuel oil, 32% light and medium fuel oils and diesel oils, and 15% gasoline.

Two U.S. companies with production in the Middle East are also reported considering outlets in West Germany. The Getty oil interests are planning a refinery for the lower Rhine area, near Rees (PW—Nov.29'57, p47).

And American Independent Oil Co. may join Gottlieb Duttweiler to supply crude for his planned 30,000 b/d refinery at the North Sea harbor of Emden (PW—Oct.11'57,p83).

The new refineries will mean a big boost in new pipeline construction. Two groups of companies have already joined forces to build lines to feed the new plants.

Unlike those in the U.S., German pipelines until now have been mainly a network of small crude lines, linking fields or refineries with rail stations or ports.

Refiners processing imported crude had concentrated their plants along the North Sea coast, at Bremen and Hamburg, where refineries could be supplied by tankers.

But most of the new plants are concentrated in the Rhine-Ruhr area. Obviously, German oil men have decided it's cheaper to pump the crude 250 mi. inland to the Rhineland refineries, where the oil is consumed, rather than transport finished products from North Germany to the Ruhr consumers.

One new pipeline alone, the Wilhelmshaven-Ruhr line, will almost equal the total length of all existing crude lines in Germany. It will run 220 mi. from Wilhelmshaven, on the coast, to Dinslaken, Leverkusen, and Cologne (PW—May1'57,p52).

Another group, headed by Shell, is planning a line from Godorf, near Cologne, to the Dutch port of Rotterdam. Its initial capacity will be 150,000 b/d.

This line could eventually fit into the long-range trans-Europe pipeline network. But the plan for one big comprehensive network from Marseilles to Rotterdam now looks as though it may be dropped, Paris sources say (PW—Dec.13'57,p58).

Domestic producers, meanwhile, are rushing to get as much oil out of the ground as possible before withdrawal of tariffs topples the crude prices from its present level of about $5.40 a bbl.

A stiff import duty now bolsters the price of crude. But when the new European Common Market comes into force, trade barriers between member nations will have to be gradually dropped, and Germany's crude price will fall (PW—Jan.31'57,p48).

This protection is the reason that such small and scattered production as is now found in Germany can be profitable. A good well there produces 150 b/d, but many wells run only 20 b/d to 70 b/d.

Unlike the producer in the U.S., the German producer does not have to worry about proration as such. There are, however, certain limitations on going too close to the border of neighboring concession.

And his chances of finding oil are pretty good: The West German success ratio averaged 15% from 1953 through 1957.

The trend toward deep-drilling is growing in Germany, with depths now extending into the 13,000-ft. range. And offshore areas are starting to get lively consideration.

Germany is now Europe's leading crude producer, topping Austria, its nearest competitor, by about 19,000 b/d. Production in 1957 totaled about 79,200 b/d, and the industry hopes to boost that to 92,000 b/d by 1961. German crude reserves, estimated at 450-million bbl., are the largest in Europe.

The three top producers are German independents. A Socony affiliate is fourth, leading the list of international producers, followed by a joint Jersey Standard-Shell company. BP holds an interest in some exploration and producing acreage.

But the German picture is not entirely rosy. Oil is getting harder and harder to find there, as it is in the U.S. Its domestic producers, like their U.S. counterparts, are venturing abroad.

Germany is the only country besides the U.S. whose independent companies are going overseas. The first venture was in Peru in 1954. Since then, there have been ventures into Syria, Turkey, Spain, Yemen, Greek Thrace, Canada, and Sardinia.

Marketing in Germany is headed by three international oil companies—Esso, Shell, and BP. They hold an estimated 27%, 25%, and 18% of the market, respectively.

Newcomers on the German marketing scene are subsidiaries of Caltex, Petrofina, and Cie. Francaise des Petroles.

In oil equipment manufacturing, German firms are playing an active role.

They have developed their own products, ranging from drilling rigs and offshore platforms to steel pipe.

Salzgitter Machinen AG has developed a derrick, called the "Gulliver." Pleuger has come up with an immersion pump, and a DEA subsidiary has developed a urea deparaffining plant.

Virtually all major German equipment manufacturers are exporters, with both the U.S. and Canada buying some of their steel pipe. In turn, some equipment is imported primarily from the U.S.

Steel tube exports amounted to 560,000 tons in 1956, with 61,000 tons coming to the U.S., and totaled 775,000 tons in 1957, with about 110,000 tons coming to the U.S.

(The next story in this series will appear Mar. 14. It will be a trip to the United Kingdom.)

OCAW Is Ready to Bargain

The Oil, Chemical & Atomic Workers Union announced its new bargaining program this week. Principally, it calls for a basic 3.5% wage hike, longer contracts, and protection against layoffs.

The program was drafted by the union's 52-member bargaining policy committee, at a meeting at Denver.

Most of OCAW's contracts, affecting more than 100,000 oil workers, are open for bargaining late this spring.

On the main point—wages—OCAW wants a 3.5% annual increase, in addition to upward adjustments to meet any increase in the cost of living.

The union says the 3.5% increase annually is justified by increased productivity.

Last year, oil unions generally got a 6% hike, lifting wages to an average of around $2.70 an hour.

As a buffer against layoffs, the union is proposing two steps: four-month advance notification, and a "substantial" severance allowance.

The advance notification would be required when an employer lays off 5% of the work force in a particular bargaining group—either at one time or over a one-year period.

In addition to advance notification, the union wants the right to reopen its contracts for bargaining on wages and hours when layoffs occur.

The idea, apparently, is to enable the union to bargain for shorter hours or other adjustments.

OCAW is seeking two- or three-year contracts to replace the customary one-year agreements. Such contracts would specify that the 3.5% wage hike, plus any cost-of-living increase, would be applied annually.

The optional goals set up by the union deal principally with layoff problems and fringe benefits. They include:

- Provision that hours be reduced as an alternative to layoffs.
- Curtailment of overtime work, possibly with provisions that overtime shall be offset by giving the employee compensating time off.
- Training programs to teach workers new skills required by technological advancement.
- Full payment by the company of the costs of pension plans, hospitalization plans, insurance, and other such benefits.
- Earlier employee rights to pension fund money. The aim is to enable the worker to collect a larger share of such funds if he leaves a firm before his retirement age.

Arctic Sends Expedition to U.S.

But Frigid Weather Wasn't Unwelcome to Fuel Oil Suppliers

TRAFFIC SNARLS were common last week as winter zeroed in. This scene was near Washington, D. C.

ICE BREAKING along the Mississippi was necessary to free 200 barges at Cairo, Ill.

FOUR-FOOT-THICK dams of ice almost stopped oil barge movements between Cairo and St. Louis.

CHESAPEAKE BAY had troubles, too. Here a Coast Guard cutter goes to help an oil barge.

Venezuela's New Oil Chief: de la Cova

Dr. Carlos Perez de la Cova, petroleum counselor of the Venezuelan Embassy in Washington, has been named Venezuelan Minister of Mines & Hydrocarbons, in a Cabinet shuffle aimed at strengthening Venezuela's hand in international petroleum affairs.

He replaces Dr. Jose Lorenzo Prado, chemist and university professor, who had headed the Ministry since the overthrow of the Perez Jimenez government in the Jan. 23 revolution. Perez de la Cova returned to Caracas last week from Washington, where he had served with the rank of Minister since 1952.

While the government gave no reason for the change, the move is obviously intended to place the key Ministry of Mines & Hydrocarbons in the hands of a man experienced in oil policy and diplomacy as well as actual technical oil operations. (For a review of the bureau's operations, see page 40.)

Lorenzo Prado was a technician moved up from a research position within the Ministry, with no previous experience in top-level policy making or administration.

Perez de la Cova is widely known in international oil circles. A graduate in physical science and mathematics from the University of Caracas in 1928, he received a petroleum engineering degree from the University of Tulsa in 1941.

After that, he held several responsible posts in the Ministry of Development, predecessor to the Ministry of Mines & Hydrocarbons. In 1949-50 he became head of the land department, and a member of the operations committee, of Phillips Petroleum Co. in Venezuela. In 1950, he was named Venezuelan Government representative to the World Petroleum Congress at The Hague, and subsequently counsellor at the Venezuelan Embassy in London, where he served until his Washington appointment in January, 1952.

The new appointment reflects Venezuela's growing concern over United States crude oil import restrictions, which are costing Venezuela around 100,000 b/d of exports daily. The question of U.S. import policy has been Perez de la Cova's prime concern during his six years in Washington.

The Cabinet change does not augur any shift in basic oil policy.

Only last week, Perez de la Cova read a paper to the New York meeting of the American Institute of Mining Engineers underlining Venezuelan oil progress through private development as compared with slow development by government monopolies in other countries.

"The oil industry of Venezuela has proven," he said, "through the continuity of its increasing development and success, and in spite of political unheavals and changes of administration, that it is based on a strict and sound business footing."

"I firmly believe," Perez de la Cova concluded, "that the present system of Venezuela, namely the development of the oil resources by means of concessions, awarded in accordance with the Law of Hydrocarbons of 1943, is beneficial to the national interest of the country and is for the welfare of the people."

The appointment is a probable prelude to stronger defense of Venezuelan oil interests against U.S. import curbs.

In his state of the nation address last week, Rear Admiral Wolfgang Larrazabal, president of the junta, hinted clearly at such a move. He said Venezuelan economic dependence on mineral exports requires policies that "emphasize our rights and the importance of our contribution to the economies of countries which permanently need our products, and which therefore owe us an attitude of trust and understanding, in order that our economy shall not be affected by unilateral measures."

Gas Finds Made Near Montreal

Montreal—An important target area for both oil and gas producers in Western Canada—may end up with its own local gas reserves to fill part of its needs.

That's the indication this week as the result of an exploratory program by Quonto Petroleums, Ltd., in an area 25 mi. northeast of Montreal. The company has drilled 30 tests in the l'Assomption area.

Gas has been found in six tests, five of which are classified as producers, with a total potential of from 1-million to 2-million cu. ft. a day.

Quonto reports it had an oil show in hole No. 9 in a 20-ft. section between 930-50 ft.

After a strong gas blow, the No. 9 test was completed as a gas well.

Most of the successful tests have found gas between 1,200 ft. and 2,000 ft., in the Trenton sand.

Quonto officials estimate that, with six to eight more wells, the company could boost its production to about 5-million cu. ft. daily, which could be supplied to the Montreal area.

Montreal's major source of gas will be from Western Canada once the Trans-Canada Pipe Line is completed.

Meanwhile, natural gas is being supplied to the area by Tennessee Gas Transmission Co.

A local supply of gas, however, would be of substantial benefit in meeting peak requirements.

Farther north, in the Quebec Lowlands, numerous companies have exploratory programs under way (PW—Jan.11'57,p18). Some gas has been found.

Oil Selections, Ltd., now controlled by Quonto, has been active in the Quebec Lowlands.

Conoco Will Join Ohio Products Line

The scramble to move more products into Midwestern markets continues. Now Continental Oil Co. is buying into Ohio Oil Co.'s upcoming line from Wood River and Robinson, Ill., to Chicago.

Ohio Oil originally intended to run the line on its own, carrying products to Griffith, Ill., just south of Chicago, from its Robinson refinery and from the Wood River plants of several majors, and from Phillips' Wood River pipeline terminus. Now, however, Continental is coming into the picture in a big way. Current negotiations could give the company as much as a half-interest in the 340-mi., 12-in. system.

If present plans stand, Continental, as well as Phillips and the majors with refineries in the Wood River area, will ship products to Chicago through the Ohio line when it goes into operation early next year.

Continental's product shipments will originate at its Ponca City (Okla.) refinery. Continental is co-owner of

the Ponca City-to-Wood River Cherokee products system with Cities Service Oil Co.

They recently announced that the line's capacity would be doubled to 60,000 b/d later this year (PW—Feb.7'58,p42).

Phillips products for the line would also come from the Mid-Continent, using Phillips' own line from its Kansas City refinery to Wood River.

The Ohio Oil line, with its relatively small 30,000 b/d initial capacity, will be used to supplement present lines to Chicago.

Phillips already has significant products line capacity to Chicago. So do Socony Mobil, Shell, Sinclair, and Indiana Standard, the companies that will put product into the Ohio Oil line from refineries in the Wood River area.

Ohio Oil has completed one leg of the line, from Robinson to Champaign, Ill. Right-of-way on the other leg, from Wood River to Champaign and then on to Griffith, is now about 75% cleared. Panama Williams Co. will begin construction on this segment in July; completion is due in early 1959.

The line could grow in importance as the Midwestern Market Grows. Its capacity could ultimately be boosted to about 90,000 b/d for product movement to Chicago and beyond.

What's New / IN THE INDUSTRY

Frank Prior To Head Standard of Indiana

Frank O. Prior will become chairman and chief executive officer and John E. Swearingen will become president of Standard Oil Co. (Ind.) on Mar. 19, upon the retirement of Dr. Robert E Wilson.

Dr. Wilson, who has been chairman for 13 of his 36 years with the company, will reach the normal retirement age of 65 next month.

Prior has been president since 1955. Swearingen has been an executive vice-president since 1956.

Robert C. Gunness, also an executive vice-president since 1956, will assume additional responsibilities, largely in coordinating activities of Indiana's major subsidiaries.

George V. Mayers, general manager of production, has been elected vice-president for production.

•

Socony Mobil Oil Co., using the "LIFO" method of accounting for the first time, has found that its estimated earnings of $220-million for 1957 were 12% below 1956.

"LIFO" is the last in, first out system of inventory accounting, under which inventories last acquired are considered to be sold first. Thus, (1) current costs are charged against current sales, and (2) the book value of inventory does not fluctuate with prices, which eliminates unrealized "inventory profits" in a time of rising prices.

Socony estimated that, under the "LIFO" method, inventories at the close of the year were $24-million less than they would have been under the old average cost method.

•

Investment in Sahara oil development in 1957 amounted to $100-million, and another $257-million may be spent by 1960.

These figures were disclosed last week during a hearing on the Sahara budget in the French National Assembly.

In addition to the $357-million to be spent on exploration, $167-million will be spent on construction of pipelines and $71-million on other Sahara installations.

•

Texas New Mexico Pipeline Co. has started pipeline fill for its 50,000 b/d line from the Aneth pool, in the Four Corners area, to Jal, N. M.

The line is expected to be in operation within 60 to 90 days, moving crude of The Texas Co.

•

Transwestern Pipeline Co. has contracted to supply Pacific Lighting Gas Supply Co. of Los Angeles with 350-million cu. ft. of gas daily starting in 1959.

Transwestern will supply the gas through a projected 1,200-mi. pipeline system from West Texas and New Mexico. The planned line will be a 30-in. carrier, estimated to cost about $200-million.

•

Trans-Canada Pipe Lines, Ltd., has increased prices to Western Canadian producers in new natural gas contracts announced this week.

The new price schedule made public at the Borden Commission hearings start at 13.25e per Mcf. from date of initial delivery through 1960, and escalating 0.25e annually to 18.75e per Mcf. in 1982. Previous prices ranged from 10e to 12e.

•

Five oil companies won permits on 50,000 acres of Alberta tar sands acreage in the first public tender sale by the provincial government.

Successful bids were submitted by French Petroleum, $29,887; Northwestern Exploration (Texaco), $55,511; Tercol Petroleum (Imperial), two permits at about $25,000 each; Canadian Kewance, $50,125; and Shell Kootenay Exploration, $28,979.

editorial index

The index to the editorial contents of Petroleum Week, covering the issues published from July to December, 1957, inclusive, will be ready for distribution in about two weeks. Single copies will be available to subscribers without charge. Readers who have previously asked to be placed on the permanent mailing list will receive the index automatically. **Others may address requests to Editor, Petroleum Week, 330 West 42nd Street, New York 36, N. Y.**

NEXT WEEK in Petroleum Week

With oil becoming harder to find, the oil industry is putting increasing reliance on exploration. How is this segment of the industry equipped to shoulder this responsibility? To find out, PETROLEUM WEEK has made a thorough survey, results of which will be contained in a Special Report Exploration, next week.

Looking Ahead in Washington

McGraw-Hill
Washington
Bureau
February 28, 1958

Latest requests for oil imports allocations are being pared with a sharp knife. Twenty-four companies have asked Matthew V. Carson, imports administrator, for 225,000 b/d under the voluntary program. But it's easy to eliminate 42,000 b/d sought by companies with vague future plans. By squeezing out brokers and reducing almost all requests, Carson's recommendation to the cabinet committee probably will be less than 100,000 b/d. But there's still the big problem of how to make room for any new imports at all.

You can expect a decision on the new requests by mid-March. That's when the Weeks committee is expected to complete its current review of the imports situation. Right now, it looks as though the committee will stand by the voluntary approach, with some changes, but keep the threat of mandatory controls at hand.

•

Another Stop Kefauver move is afoot in the Senate Judiciary Committee. Opponents of S-11, the pet pricing bill of Sen. Estes Kefauver (D., Tenn.), hope to beat the bill in committee or at least to reduce its effect. The controversial legislation is at the top of the committee's agenda now, and Kefauver is insisting on consideration. Although the bill has additional strength in an election year, Sen. Everett Dirksen (R., Ill.) and other foes of S-11 hope to bottle it up or amend it drastically. The bill still faces a stiff fight in the house as well.

•

Next move in the Memphis natural gas case is up to the Supreme Court. The justices will resume work next week, and will be faced with a special request from the Solicitor General for an early argument of the case. But don't expect any immediate announcement by the court.

•

The State Dept. isn't worried about the new Arab union, even though some oil-producing areas may be brought under the leadership of Egypt's Col. Nasser. The thinking is that Arab unity will be promoted and, in the long run, U. S. oil interests safeguarded. Recognition of the Egyptian-Syrian federation is expected to be routine.

•

Congressional leaders are trying to revive the natural gas bill. They are beginning to think that perhaps the Houston blow wasn't fatal, and that the bill still can pass the House with help from President Eisenhower. The White House is being pressured to speak out for the bill. But the opposition is busy, too. Mayor Richard Dilworth, of Philadelphia, is warning gas bill foes against over-confidence; he wants a poll showing a final burial before his mayors' group slows its campaign.

•

Both sides are citing unemployment in the fight for a new trade bill. Sidney Swensrud, former chairman of Gulf Oil Corp., is plugging for broad trade legislation; he says protectionist sentiment is partly responsible for rising unemployment. But domestic groups are also arguing that free trade adds to the jobless totals. These arguments are expected to be used again when the current House hearings get more directly concerned with the oil imports issues.

CHEMICAL PROCESS ADOPTS BJ SERVICE NAME

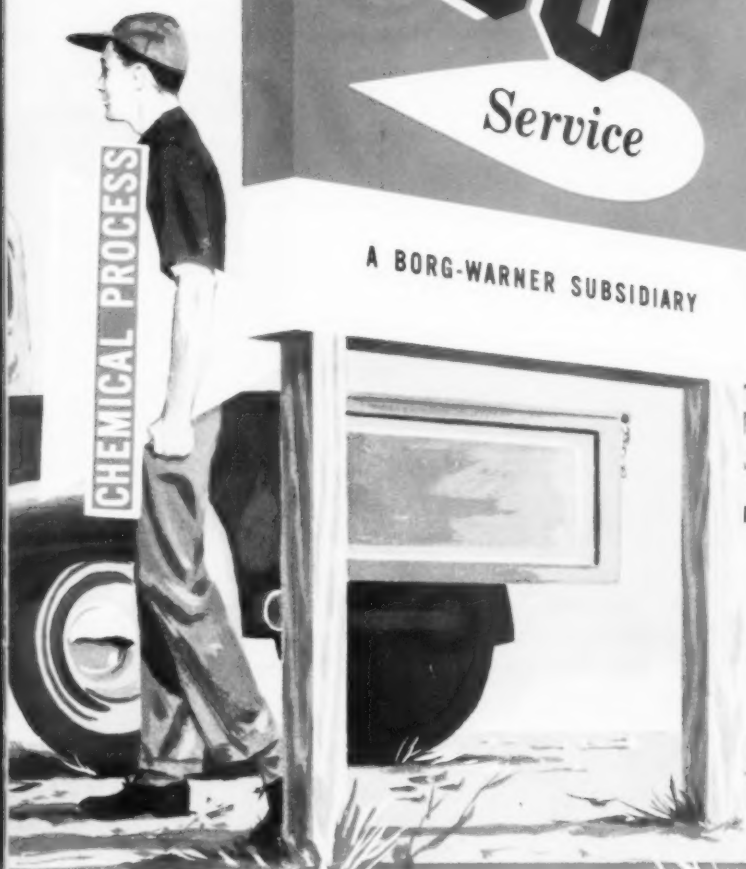
A NEW SIGN OF PROGRESS FOR THE OIL INDUSTRY...

A NEW SIGN IS going up on all Chemical Process stations. The blue and yellow emblem of BJ Service has been adopted... replacing the well-known triangle that for 26 years has stood for scientific advancement in chemical treatment of oil wells.

The new BJ Service sign means broader services and expanded technical research for the oil industry. The benefits of Chemical Process know-how in acidizing, fracturing and special chemical treatment are now extended to the Pacific Coast and Rocky Mountain regions. At the same time, the cementing knowledge and equipment of BJ Service are introduced to new fields in the Mid-Continent and Gulf Coast areas.

The unified organization now includes 60 field stations in 11 states, 800 units of specialized mobile equipment and a staff of more than 900.

Yes, the blue and yellow BJ emblem is a new "sign of progress" for the oil industry... with your old Chemical Process friends continuing to offer the extra personal service you've always counted on.



New high-power BJ Service twin pumping unit manifolded for acidizing, fracturing or cementing.

BJ SERVICE, INC.

A Borg-Warner Subsidiary

LONG BEACH, CALIFORNIA • FT. WORTH, TEXAS

Stations throughout Mid-Continent, Gulf Coast, Rocky Mountain and California areas

How Research Shapes Our Future Prosperity

If you are looking for an industry that is going to keep on booming in 1958 and every year for the next decade, here it is. It is the industry of technological innovation through research and development.

Last year this great new industry spent over $7 billion to discover and develop new industrial products, processes and equipment. This year the preliminary McGraw-Hill survey indicates that total expenditures for industrial research and development will be even greater, perhaps as much as $8 billion. Of the companies surveyed, 57% plan to spend as much as in 1957 and 38% plan to spend more.

The sustained expansion in research and development is the best guarantee we have that the current decline in business investment in new plants and equipment will be relatively short-lived. There can be no prolonged decline in investment in an economy where technology is changing rapidly.

This editorial is designed to show how the continued surge in research and development can be expected to lead first to new products, and eventually to renewed expansion of investment in new industrial plants and equipment. Such expansion is the essence of national economic growth.

A Slow Start

The impact of research on sales and investment is still very gradual. Research spending itself has more than doubled in the last four years. But only 32% of all manufacturing firms report significant capital outlays to make new products. We are not reaping the full dividends of industrial research as yet for several reasons:

- Research expenditures were relatively small until the Korean War of 1950 brought substantial government contracts in aviation, electronic and related fields. Heavy research outlays for civilian and industrial products came even later.

- There is an average *lag*, according to research directors consulted by the McGraw-Hill Department of Economics, of roughly seven years from the start of research until the product is ready for large scale output — about five years of research and at least two years to solve production problems and develop markets.

- Complex products, such as new consumer durables and industrial machinery, have an even longer time lag.

However, new developments are certainly underway. Research began to increase in all lines of business when Korean War restrictions and

the excess profits tax came to an end in 1953. The tax revision of 1954 added a new incentive by making research outlays deductible as a current business expense. By 1955, the research boom was on.

When Is The Payoff?

With a lag of about seven years, it will be the early 1960s before these new developments become a dominant factor in capital investment. But once the flow of new products and new processes starts, it will accelerate sharply — just as research spending has accelerated in the past few years.

By 1960, over $50 billion in sales will be coming from products not on the market as recently as 1956. Sales of new products will increase year by year, but they will gain most in 1960-1962, or five years after the recent spurt in research expenditures.

Capital expenditures to manufacture new products will also rise, but with a slightly longer lag. Here the sharpest rise should come in 1962-1965, as the new products reach a volume that calls for a significant amount of new capacity. In most cases, initial output of new products will come from existing capacity.

This timing of a new wave in capital investment appears logical on other grounds. Population experts forecast an upsurge in marriages and births around 1965. So by 1962, industry will be starting to tool up for new mass markets.

The important point is this: As we approach the 1960s more and more sales and investment will be in new products growing out of research. By 1960 well over 10% of manufacturing sales will be in new products not on the market in 1956.

Meanwhile — research will help stabilize capital spending by raising the level of modernization and replacement expenditures. Of course, research does not eliminate all the ups and downs in the demand for capital goods, for there remain variations in the amount spent to expand capacity. But a high level of modernization, to cut costs and improve quality, does put a floor under any drop in investment.

What To Expect

During the next few years we can expect an increasing flow of new materials, new metallic alloys, new machinery — primarily those developments coming out of long-established research programs in the chemical and electrical industries. Industry will make wider use of specialized computers and automated equipment.

But the dramatic payoff on research comes even later. In the early 1960s the consumer goods industries will begin tooling up for their really new products — things so basically new they can change the way a family lives. Such items as plastic houses, paper apparel, turbine autos are under development right now. But it will take several years to get costs down and for population and incomes to grow to the point where mass markets are created.

When we reach that point in the mid-1960s, there will begin the greatest surge of capital investment in all history. And then — around 1965 — the new processes (full automation, atomic power, continuous steel casting) which are the slowest and most expensive part of the research chain to develop, will come into play.

The combined impact of new products and new processes, to meet an expanding market, will thus be felt in the mid-1960s — eight to ten years after the recent sharp increase in research spending. The full impact is that far away because of the lags for applied research, pilot plant studies and market introduction. But to a large degree the prosperity of the 1960s has already been shaped by the research programs now underway.

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nation-wide developments. Permission is freely extended to newspapers, groups or individuals to quote or reprint all or parts of the text.

Donald C. McGraw
PRESIDENT

McGRAW-HILL PUBLISHING COMPANY, INC.

when you must be SURE

. . . that a zone, or a section of casing is positively isolated, set a . . .

BAKER BRIDGE PLUG

- Easily run and set on wire line, tubing or drill pipe
- Ample clearance for fast, safe running-in
- Sets quickly and holds positively
- Provides positive, leak-proof seal
- Cast Iron for permanence
- Magnesium alloy for temporary service
- Shorter body and segmented slips drill up quickly and easily
- Always set promptly and accurately by leading wire line service companies.

BAKER
WIRE LINE
BRIDGE PLUG
PRODUCT
NO. 400-N

BAKER OIL TOOLS, INC., / HOUSTON / LOS ANGELES / NEW YORK

Air/Gas Drilling Has Long Way to Go

AAODC subcommittee says air and gas drilling is hampered by lack of suitable equipment. But water shutoff is still the major problem.

Better equipment is needed for air and gas drilling. But such developments are being held back because of low demand, according to the Air & Gas Drilling Subcommittee of the American Assn. of Oilwell Drilling Contractors.

The subcommittee presented a report on the present status of air and gas drilling at a recent meeting of the AAODC Rotary Drilling Committee in Dallas. A formal report will be issued at the Mar. 12 meeting of the API, Southwestern District, Division of Production.

M. M. Brantly, president, Brantly Drilling Co., and chairman of the subcommittee, reported findings of the equipment requirement group, one of seven groups set up to facilitate handling of various projects involved in the over-all study.

"Although we have by no means obtained the best possible air compressor equipment," Brantly said, "it is felt at this time that the equipment available must be made to serve our purpose until the air drilling process is further advanced.

"There is naturally a rather low demand for this equipment; therefore it is economically impractical for the equipment manufacturers to attempt to develop more highly specialized tools."

He said that by using available compressors and by properly fabricating the units, "we have equipment which will serve quite well."

Some work is still needed on the development of accessory equipment, Brantly continued, but at the present time, "we are not quite sure enough of the requirements to justify the expenditure of much time or money on this."

The biggest stumbling block to further growth in air and gas drilling, however, is the problem of shutting off water encountered in formations during drilling. Testing of suitable materials is continuing.

The subcommittee reported that recent tests show that materials of various types can shut off water with varying degrees of success, ranging from 60% to 100%.

Work is still being done on the technique of applying shutoff materials. The materials being used presently fall into two categories: (1) gels, and (2) plastics.

The gel material sets up a fairly stiff consistency, but does not solidify. This material can be applied to water-bearing zones in the same manner as a conventional plug-back. Field tests have shown that it is satisfactory for shallow, low-pressure water zones.

The plastic material has a low viscosity (almost that of water) and will, in any desired time, take a hard set. This material is used to combat water with higher pressures, or where it is felt necessary to displace some of the material into the water-producing formation.

The subcommittee noted that differences in permeability, porosity, natural fracturing, and the like, will to some extent determine the exact material to be used.

Since the materials are extremely sensitive to temperature changes, it is very helpful to know the bottomhole temperature before the material is selected. Tests on the plastic material have shown that a change of 20F can either double, or cut in half, the necessary setting time.

The water shutoff problem poses a corollary question: Just what is a successful shutoff job? The air volume available enters into the answer.

Brantly said there are those who maintain that a shutoff should be complete, while others are satisfied if the water is reduced to a very small amount.

It is felt that the answer to this question will, to some extent, depend on the hole conditions above the water zone, Brantly said. He added that "it has been proven" that the air or gas volume available determines the answer.

Different formations, when ground up, have a capability of absorbing varying amounts of moisture without becoming sticky and causing hole difficulties, he added. This tolerance to moisture is further affected by the air temperature and the ascending velocity of the returns.

When warm, humid air is compressed, a considerable amount of water is released. Unless traps and scrubbers of some type are used, this moisture will be pumped down the hole.

The general feeling is, Brantly said, that if sufficient air volume is available, the condensation from the atmosphere will not be a cause of trouble.

He added that it is extremely important that the walls of the bore hole be cleaned as completely as possible before an attempt is made to treat a wet zone, so that the material to be used can penetrate the formation.

The most common method used for this cleaning is the injection of additional water, and possibly some type of foaming agent.

Mist, or mist-foam, drilling seems to be gaining in popularity. In many cases, the results obtained are encouraging.

The subcommittee reported that, at the present time, there are many foaming agents on the market, but not enough is known of these materials and their reactions to classify them either as to effectiveness or to conditions under which each should be used. But no matter which agent is used, corrosion is still a major problem.

Either the injected water must be treated with lime, or a corrosion-inhibiting foaming agent used.

In cases where a complete water shutoff is not obtained, it may be more economical to convert to mist, or mist-foam, drilling, rather than continue attempts to effect a 100% shutoff.

Much experimenting must still be done, but results to date indicate that for the proper use of mist-foam methods, equipment must be available that can operate at a uniform rate of from 10 gal. per minute upward for the injected water, and from ½ gal. per hour upward on the foaming agent.

Accurate location of both the top and bottom of water-bearing zones is economically essential before water shutoff attempts are made.

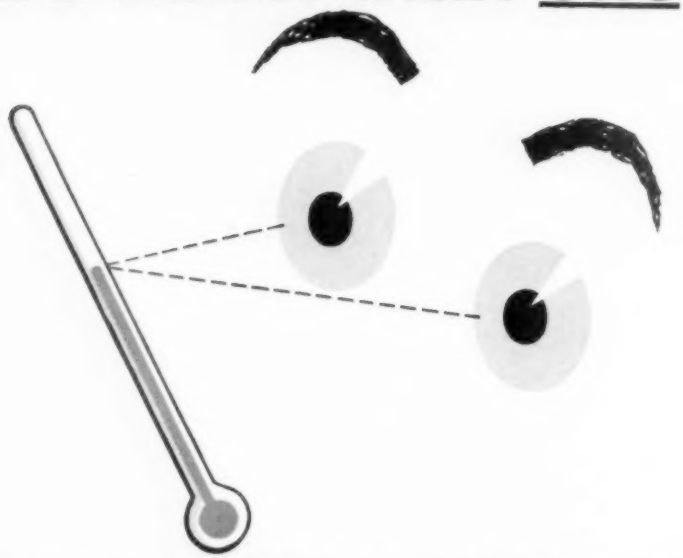
The Water Location Study Group reported that results to date are not too encouraging.

The ideal situation would exist, the group said, "if we could determine where water would be encountered, and the thickness of each zone, by study of electric logs of wells adjacent to a proposed air-drilling operation."

"It has become apparent," said Brantly, "that with the logging methods used today, these desired results cannot be reliably obtained.

"In general, the best indication of

TWO Eyes
are better than one



for a NEW LOOK at
down - hole temperatures

The DELTA-LOG, an exclusive service of Worth Well Surveys, is a differential measurement of temperatures. *TWO* sensing elements instead of one do the trick . . . and the secret is super sensitivity, detecting trouble accurately where other devices fail.

Application of the Delta-Log to down-hole problems helps you see . . .

- GAS ENTRY
- CHANNELLING
- TUBING LEAKS
- CASING LEAKS
- LOST CIRCULATION
- WATER ENTRY IN INJECTION WELLS
- GAS OIL CONTACT
- LOCATE ZONES OF PRODUCTIVITY

A proven service . . . the Delta-Log is backed by eight years of FIELD experience.

For additional information on this service call or write:
MR. JOHN DISCH,
Petroleum Engineer
Worth Well Surveys, Inc.
Odessa, Texas • Phone FE 7-8353

WORTH WELL Surveys
General Offices: 3621 McCart Street
WA 4-0609, • Fort Worth 10, Texas

a water-bearing zone is given by a Micro-Log. But, in general, this type of log is run only in the pay zone, and seldom up the hole in the area with which we are primarily concerned."

Some success has been obtained in the Four Corners area by using radioactive logs to detect wet formations. But more work must be done to determine the general applicability of this type of log to the problem.

"It is the feeling of the logging engineers," Brantly added, "that the development of a logging tool to be run in mud for the location of water-bearing zones would not be too difficult.

"The question is whether the operator would be willing to run this additional log for the information to be obtained."

Another problem in an air and gas drilling: Is it advantageous to set additional surface or intermediate casing to case off known water flows?

This can be a very difficult decision, Brantly said, when a possibility exists that the only a short interval may be drilled under the casing before other water is encountered.

On the other hand, he continued, if there is some assurance that a relatively long dry zone, or a zone that would be economical to shut off, exists below a certain point, the additional expenditure for casing could be easily justified.

The risk involved in air-drilling ventures must be more equitably distributed between the operator and the contractor, the AAODC subcommittee said.

More and more air drilling is being done on a footage basis, Brantly reported. But at the present stage of the process, the contractor is often taking "a disproportionate share of the risk."

"Basically, it is the feeling of this committee," Brantly said, "that water encroachment is no more the responsibility of the contractor than is lost circulation, heaving shale, and the like.

"The normal contract protects the contractor from these last evils—at least after a definite amount of time has been spent combating them.

"Why, then, should not the contractor be similarly protected from water flows?"

Brantly said a study group has been working for the past year in an effort to develop a contract clause that would be fair, and acceptable to both the operator and the contractor.

"We feel that we will have the solution to this problem in a short time," Brantly added.

Big Jump Seen in Oil's Use of Aluminum

- **API Southern District, Division of Production, hears prediction of 500% increase of aluminum use in 3 years.**
- **Other papers deal with optimum drilling techniques, and tubular goods for high-pressure wells, among others.**

A prediction that use of aluminum in drilling and production will increase by more than 500% within three years was one of the highlights of this week's meeting of the American Petroleum Institute, Southern District, Division of Production, in Houston.

W. B. Moore, Jr., of Reynolds Metals Co., told the meeting that drilling and production used 10-million lb. of aluminum in 1957. By 1960, he predicted, this figure will increase to 65-million lb., centering on three major applications: (1) offshore structures; (2) pipelines; and (3) oil country pipe.

Moore said the aluminum industry is backing its market projections by expanding facilities to produce additional metal to meet these requirements.

Aluminum achieved a "breakthrough" in certain phases of the petroleum industry in 1957, Moore said, changing its status as a specialty metal of construction to one of more general application.

Among the big advances last year, he added, was the perfecting of an automatic welding machine, solving one of the problems associated with aluminum pipelines.

The 1960 projection of aluminum use, Moore noted, includes only applications now successfully in use. But there will be important new applications by 1960, he added.

He reported that a research program on aluminum drill pipe has been under way for several years. Field tests with 5,500 ft. of aluminum drill pipe with steel joints also have been in progress. "The results look promising," he said, adding: "Field tests will be continued until aluminum drill pipe suitable for the most exacting demands has been developed."

Shell Oil Co.'s John W. Speer presented a method for determining optimum drilling techniques. Five controllable factors were considered.

Speer said that drill-bit performance depends primarily on these five factors: (1) weight on bit; (2) rate of rotation; (3) hydraulic horsepower; (4) type of bit; and (5) properties of the circulating medium.

There are other factors, of course, that affect drilling efficiency and footage costs. These include formation hardness, abrasiveness of formation, well depth, and many others. But, Speer continued, "as these items cannot be conveniently controlled, their influence on costs must simply be accepted."

Speer said his purpose was to determine how the controllable factors could be varied to produce minimum costs under whatever drilling conditions are encountered.

Speer summed up his findings in a ten-point conclusion, which also includes secondary issues, such as comparisons of jet bits with regular bits.

These are the conclusions:

(1) Penetration rate of a rock bit varies approximately in the direct proportion to the weight on the bit in formations normally penetrated in oil-field drilling, if sufficient circulating medium is provided to maintain clean bottomhole conditions.

(2) Optimum weight on bit, or the weight which results in minimum footage cost, varies inversely with formation drillability.

(3) Penetration rate of a rock bit under laboratory-test conditions varies in direct proportion to speed of rotation.

(4) The response of penetration rate to increases in rotary speed decreases as rotary speed increases.

(5) Optimum rotary speed, or the rotary speed which results in minimum costs, it appears, varies inversely with weight on bit.

(6) Hydraulic horsepower required for optimum bottomhole cleaning varies linearly with weight on bit; hence, hydraulic horsepower requirements vary linearly with penetration rate in any specific formation.

(7) The advantage in drilling efficiency of the jet bit over the regular bit is at a minimum in medium-hard formations. It increases directly with softness of formation. It also appears to increase directly with hardness of formation from medium-hard to very hard, but this is substantiated only by meager data.

(8) Minimum nozzle fluid velocity for effective jet-bit application varies from about 170 ft. per sec. in soft formations to about 225 ft. per sec. in medium-hard formations.

(9) The three-cone regular bit performs better than the cross-section regular bit.

(10) By combining the relationships between (1) penetration rate and hydraulic horsepower; (2) penetration rate; and weight on bit; (3) optimum weight on bit and penetration rate; and (4) optimum rotary speed and weight on bit, a method for predicting approximate optimum drilling techniques can be developed.

Two papers were presented dealing with tubular goods in high-pressure wells. One of these considered selection, design, and use of tubular good in such completions.

Tidewater Oil Co.'s M. J. Epperson noted that "practically all failures of completed wells can be attributed to the failure of casing or tubing.

"These failures generally occur as the result of either misapplication in the field or the use of defective material."

In the selection of equipment to complete high-pressure wells (which, for the purpose of the report, were defined as those with surface pressures of 5,000 psi. or higher), the operator must meet two basic requirements.

These requirements are: (1) to provide equipment capable of containing the maximum pressures to be encountered; and (2) to provide some means of corrosion control to insure that this equipment will remain capable of containing the pressures as long as it is required to do so.

"These are basic requirements for any well," Epperson continued, "but are of major significance in the deeper, higher-pressure wells because of the higher cost of drilling and completing, the corrosive nature of the produced fluids, and the high potential loss that may result in the event of a failure."

The other paper—a joint effort of the Southern District API study Committee on High Pressure Tubular Goods—presented a test procedure for the evaluation of manufactured tubing and casing connections operating in the 5,000-psi. to 15,000-psi. pressure range.

The committee said that if the test procedure could be standardized, and based as nearly as possible on the most severe conditions under which the connections were expected to perform, both user and manufacturers would benefit.

The report then gave the conditions and the tests to evaluate the connections under these conditions, as

developed by the work group assigned to the problem.

The forces to be considered in the evaluation of a connection are those resulting from: (1) internal pressure; (2) external pressure; (3) tensile loading; (4) compressive loading; and (5) torque.

The problem of excluding sand in oil and gas wells, and discussion of various methods that are used for exclusion, was considered in a report by G. H. Tausch and C. B. Corley, Jr., of Humble Oil & Refining Co.

The authors said failure to prevent sand production in oil wells may usually be attributed to a failure to recognize the effects of: (1) type of well completion; (2) formation characteristics; (3) type of completion fluids; and (4) completion technique.

The Humble engineers recommended that every effort should be made to determine if sand production can be prevented by correct completion techniques.

No sand-exclusion technique should be overlooked merely because of past failure, they said.

Present-day completion practices, they said, are vastly improved and permit effective utilization of old sand-exclusion methods.

When correctly selected and applied, a good sand-exclusion technique should prevent sand production on better than nine out of ten jobs.

The API specification for oil well cements—which evaluates cement performance in a well—should be adopted more widely by purchasers, said B. E. Morgan, Humble Oil & Refining Co.

Morgan, chairman of the API Committee on Standardization of Oil Well Cements, said laboratory tests simulating field conditions of temperature and pressure have been carried out to establish standards for seven classes of portland cement, covering every basic type available to the industry.

In the API standard, portland cement is defined as the product obtained by grinding clinker, consisting essentially of hydraulic calcium silicates, with which no additions, except suitable modifying agents, have been blended.

Specification values for the seven classes of cement have been established on thickening time, strength, soundness, fineness, and chemical content, said Morgan.

At present, he said, a committee is considering certain changes in the API standard, the first edition of which was issued in 1948. The committee will reconsider the thickening-time values in the standard, review the strength values of one type of cement, and prepare the specification for bentonite and barite as additives to cements.

A formation tester operated on a logging cable has become firmly established as a practical method for evaluating production possibilities in the Texas Gulf Coast area, L. Petty, Jr., and H. C. Phillips, Schlumberger Well Surveying Corp., reported.

Since the introduction of the tool two years ago, said the speakers, reservoirs of 2.75 gal. and 5.5 gal. have been put into use, aimed at reducing the percentage of mud filtrate recovered in the test.

Other improvements on the tester include a special shaped charge for hard formations. For very soft formations, a "snorkel" tube is now being tested. The snorkel is forced into the formation with a minimum of disturbance to the formation. Results indicate that its use will reduce the number of seal failures, they said.

The pressure-recording gauges in the tester have been greatly improved to give more accurate pressure data for reservoir analysis, they said.

If the reservoir is allowed to fill up, said Petty and Phillips, information will be available on the sampling or flowing pressure, the reservoir shutin pressure, and the recovery of mud, sand, water, and hydrocarbons.

Through field experience, they said, it has been found that the amount of gas recovered in a test is a good criterion for interpretation of formation-tester results in the Gulf Coast area.

Statistics compiled from field experience show that the tester has a success ratio of 63.4%, which compares favorably with other testing methods.

The use of small outside-diameter tubing as a workover tool can become the most practical and cost-saving idea since the advent of permanent-type well completions, said R. J. Goeken, Gulf Oil Corp.

During a work period of 18 months, said Goeken, Gulf conducted successful jobs of sand removal, displacement plug cementing, set-cement removal, sand control, acidizing, and other operations.

The first work done by Gulf using tubing as a workover tool involved simple well-bore cleanouts of produced sand. Success prompted extending the use of the tool to other workover operations. A total of 71 jobs were completed by Gulf in the Louisiana delta area.

The use of small tubing in workovers has shown many savings, said Goeken. For example, a plugback operation cost $3,611, compared with an average of $6,000 for a wire-line job.

This advertisement appears as a matter of record only. No public offering is being made of these Securities.

KERMAC NUCLEAR FUELS CORP.

$7,500,000

Seven Year Subordinated Notes

Due December 31, 1965

78,000 Shares

Common Stock

($1 par value)

This financing has been arranged privately through the undersigned.

LEHMAN BROTHERS

STRAUS, BLOSSER & McDOWELL BACHE & CO.

February 11, 1958.

...he's a few hours from anywhere

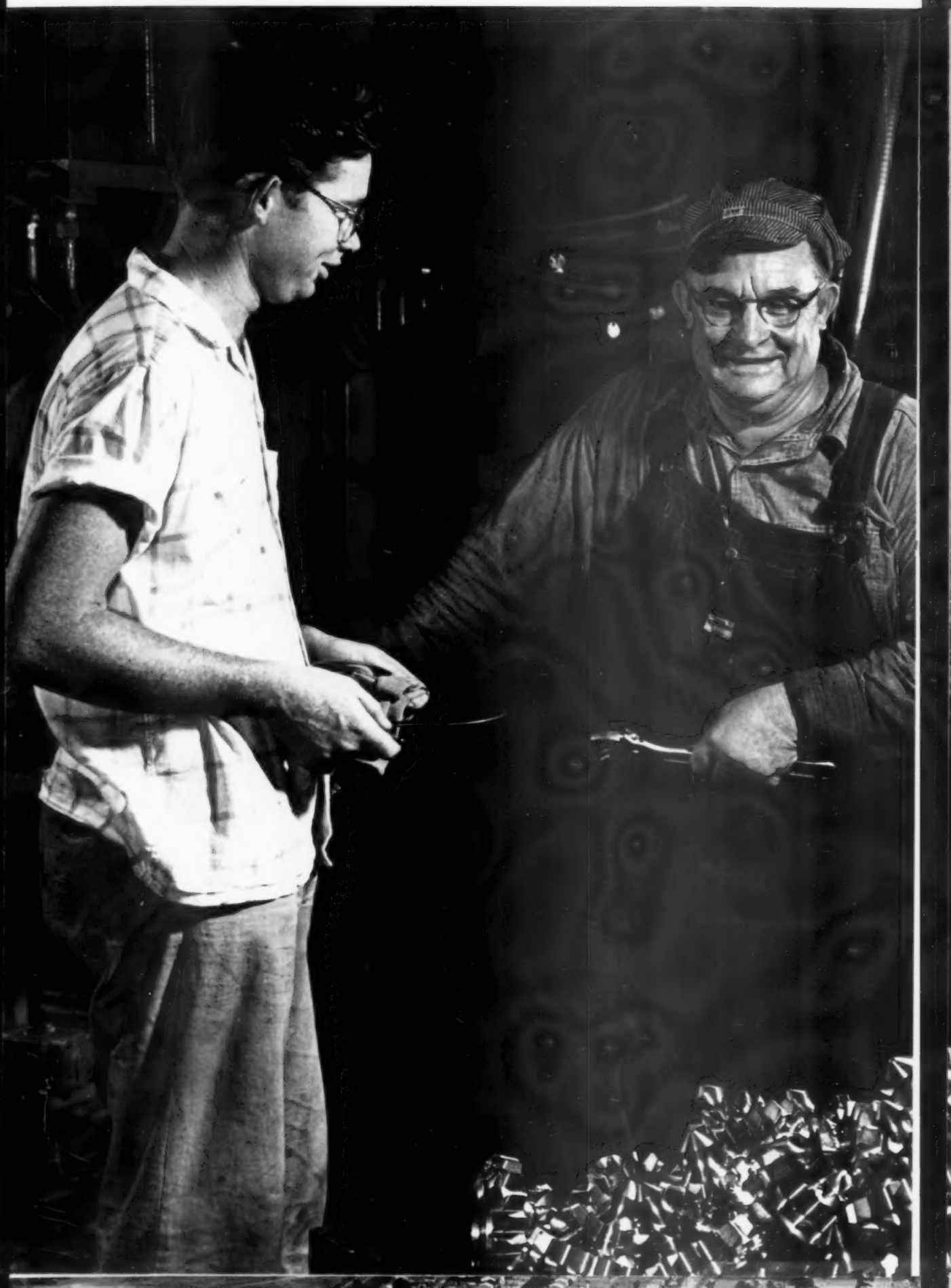
Once this boy would have lived a secluded life, far from the outside world. Today the world comes to his door. He learns many things, such as how power-driven machines can help him to meet the needs of his people.

Throughout Asia, Africa and the lands of the Pacific, new industries call for more oil. And Standard-Vacuum is doing its best to meet the demand. Stanvac finds the oil, transports and refines it, then delivers the finished products—all within the area where Stanvac operates.

This is a big job and a worth-while one. Stanvac is proud and privileged to be able to do it well.

STANDARD-VACUUM OIL COMPANY POWERS PROGRESS

White Plains, New York



"For 29 years I've seen Reed constantly modernize machines and methods . . . . To keep Reed bit quality the best."

When Machine Repairman B. N. Hitt talks about Reed manufacturing methods, son Carlton Hitt listens with respect. B. N. Hitt started at Reed in 1929, and for 29 years has been in an ideal spot to observe the constant development of Reed's production facilities and processes.

Mr. Hitt recalls that when he first joined Reed every bit cutter was actually a "hand-made" job. One man put one cutter at a time through each necessary machine operation to completion—machined the blank piece of steel, milled the teeth, and then ground the bearing race.

Using these methods, Reed turned out the finest rock bits of that era. In 1929 Reed was showing the way to longer bit life and increased footage per bit with the first roller bearing (anti-friction) rock bit.

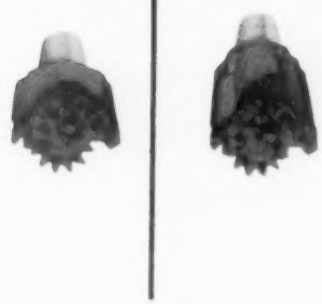
Modern plant machinery and production line techniques have long since replaced these "job shop" methods. Today, Reed Y Bit cones like those in the photograph move along production lines in quantity lots. Each step of the manufacturing process is controlled by skilled, experienced craftsmen in charge of modern, precision machines.

The Reed Y Bits produced by the facilities and methods of today are, like the "hand-made" Reed Bits of 1929, the finest of their era.

Production techniques have been modernized and product designs have changed. But you can be sure of this: The high standard of Reed quality has been, and will remain, unchanged through the years.

REED ROLLER BIT COMPANY • Houston 1, Texas

REED Y BITS



Machine Repairman B. N. Hitt, shown talking to his son, has been with Reed 29 years. His son, Carlton Hitt, has been with the company a year.

The First HEXANE ISOMERIZATION

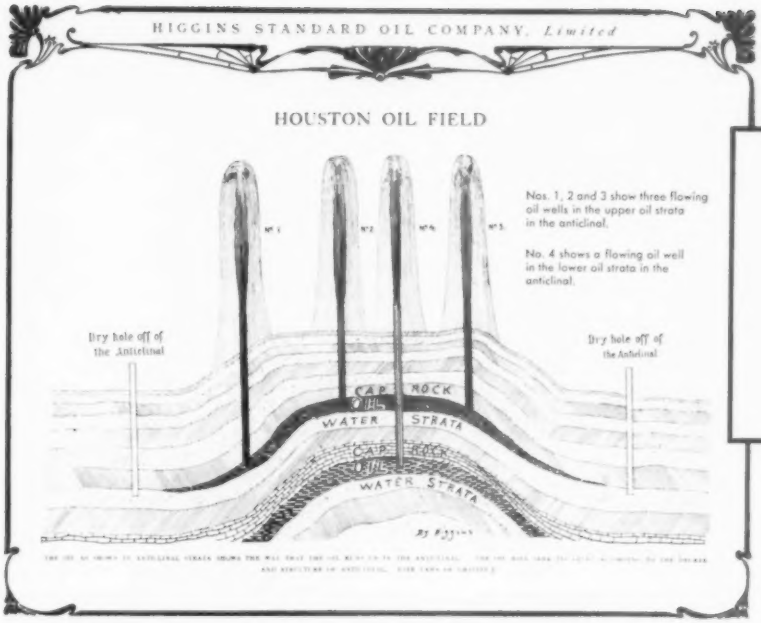
In a program to increase octanes of field distillate-derived motor fuels, Atlas Processing Company at Shreveport, Louisiana, has selected HUDSON to construct a normal hexane isomerization unit – the first contracted to be built. Low octane hexane will be fractionated from the total refinery feed stocks, and catalytically converted to high octane fractions to give substantial increase in octanes of finished gasolines.

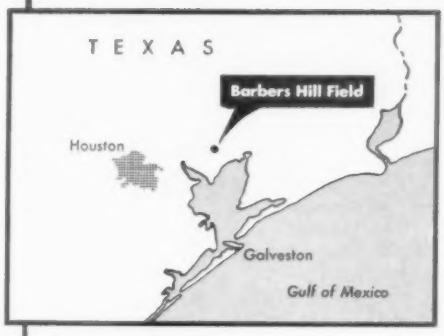
Through 25 years of ever-changing process techniques HUDSON has served the refining and natural gas industries – completing major projects throughout the free world, and building the HUDSON reputation for experience, integrity and ability.

DESIGNERS AND CONSTRUCTORS OF PROCESS PLANTS FOR THE OIL, GAS, CHEMICAL, AND MINING INDUSTRIES

HUDSON ENGINEERING CORPORATION

FAIRVIEW STATION • HOUSTON, TEXAS


HIGGINS STANDARD OIL COMPANY, Limited
HOUSTON OIL FIELD
Nos. 1, 2 and 3 show three flowing oil wells in the upper oil strata in the anticlinal.
No. 4 shows a flowing oil well in the lower oil strata in the anticlinal.
Dry hole off of the Anticlinal
Dry hole off of the Anticlinal
CAP ROCK
WATER STRATA
WATER STRATA



BARBERS HILL FIELD was drawn by Pattillo Higgins for his book, "Prospectus: The True History of the Beaumont Oil Fields." In 1902, when the map was drawn, the field was called the Houston oil field.

Barbers Hill: Old But Still Active

Barbers Hill—a Texas oil field with a real claim to the title of patriarch—still has the magic to attract oil hunters.

Pattillo Higgins, Spindletop's champion and the proprietor of an enviable niche in oil's hall of fame, was already famous when he began sinking a hole at Barbers Hill, Chambers County, Texas Gulf Coast, in 1902.

Higgins said that Barbers Hill would settle, once and for all, whether he "was just a lucky guesser at Spindletop."

His first test was abandoned, but, between 1902 and 1928, scores of wells were sunk in the field, many of them producers, but none really large.

Among the companies participating in the early play were Guffey Oil Co. (J. M. Guffey was one of the organizers of Gulf Oil Corp.), Humble Oil & Refining Co., United Petroleum Co., and others.

United's No. 1 Fisher is credited as the discovery for Barbers Hill. The well was completed Sept. 14, 1918, producing 70 b/d.

Then, in 1928, Mills Bennett Smith brought in a 3,500 b/d producer, which revived the interest that has continued up to now.

Though it's 55 years since the first effort to find oil at Barbers Hill was made, the field still hasn't been completely explored.

Higgins visualized the field as an "anticlinal," capable of yielding a harvest of gushers. Actually, the first indication of petroleum possibilities in the structure came in 1889, when a 65-ft. water well tapped some gas.

Over the course of the years, it became clear that Barbers Hill was a piercement type salt dome with a mushroom overhang, complicated by radial and peripheral step faulting.

Higgins eventually came to believe that the salt formed a mushroom. Finally, in 1925, Humphreys Corp. discovered the overhang and, in 1930, brought in No. 2 Ilfrey just below 5,000 ft. by drilling through the salt. This reservoir made Barbers Hill one of the biggest producing fields of the Texas Gulf Coast for years.

More than 25 levels have been identified. Every oil-bearing formation penetrated, from the Pleistocene to the Yegua, has produced.

The field has produced a total of more than 106-million bbl. of oil, with production running at just under 2-million bbl. per year since the 1930s.

Producing depths have increased from around 1,000 ft. to more than 10,700 ft. over the years, with more than 170 wells now producing.

Current exploratory activity is aimed at the flanks of the dome.

One person who feels that the flanks still will yield sizeable new discoveries is Michel T. Halbouty, Houston independent.

Halbouty's first experience with the field occurred back in the 1930s, when he was chief geologist for Yount-Lee Oil Co.

In 1953, Halbouty brought in a 7,000-ft. producer on the southeast side of the dome, following it in 1956 with a 7,500-ft. well on the northeast flank and a shallow producer on the west side.

Currently, a 13,500-ft. test is drilling on the east flank of the dome.

Halbouty's No. 1 Earl Wilburn will test the Yegua and Cook Mountain formations, about 1½ mi. south of the nearest Yegua production, developed by The Texas Co. in 1955.

The tests drilled by Texas and others encountered faults and generally bad sand conditions, although the north flank strike sparked a 20,000-acre leasing spree.

A Halbouty spokesman says studies indicate that the east flank isn't so highly faulted, and that it is the high structural flank of the dome. It is hoped that better sand conditions will be found.

If the new test is successful, it will mark a new productive milestone in the long history of Barbers Hill.

Halbouty is drilling on an 8,000-acre lease from Kirby Petroleum Co., some 5,000 acres of which lie on the east flank of the dome. The lease terms call for continuing development over a period of years if a good producer is found.

Halbouty believes that some completion techniques that haven't yet been tried in the field may pay off.

What's New / IN EXPLORATION, DRILLING, PRODUCTION

Operators Pass Up Washington Leases

An oil "boom" that began last summer along the west coast of Washington state appears to have run its course.

The Washington Land Commissioner had announced that he would open bids Feb. 18 on 1,200 acres in Grant, Grays Harbor, and Whatcom Counties. But no bonus bids were received, and the leases now will go to the persons who originally applied for them, at the standard minimum rental fee of 50¢ per acre for a five-year period.

In Grays Harbor County, Sunshine Mining Co. has abandoned No. 2 J. W. Tanner-Medina, after the 5,425-ft. test failed to show commercial possibilities. The company's No. 1 Minard, 5 mi. south of the discovery well for Washington, has been drilled to 5,032 ft., with no commercial shows.

However, in Benton County, in eastern Washington, Standard Oil Co. of California will resume drilling in March on its Rattlesnake Hills test near Prosser.

The test was suspended in January after reaching 8,418 ft.

•

First North Dakota Unit

Amerada Petroleum Corp. has filed application with the North Dakota Industrial Commission requesting unitization of the Madison pools at Beaver Lodge and Tioga fields, the largest producers in the state.

The two fields, on the Nesson Anticline in Burke, Williams, and Mountrail Counties, have a total of 515 producers on 41,200 acres. Both are on 80-acre spacing.

All 21 operators in the fields have signed the unitization agreement.

Plans call for an investment of over $6.5-million for a waterflood project in the two fields.

If the project is approved, it will be the first time that an existing oil field has been unitized in North Dakota.

•

Phillips Petroleum Co. will attempt the deepest whipstock operation ever undertaken in Texas at No. 1-EE university, Pecos County test 16 mi. southeast of Fort Stockton.

Phillips will set whipstock and attempt to drill around lost drill pipe and other material. Top of the pipe is at 19,986 ft. in the 21,397-ft. hole.

•

Standard Oil Co. (N.J.) has formed a new production research affiliate to direct activities previously carried out under contract by Carter Research, in Tulsa.

The move, Jersey said, was dictated by the "great increase in growth and importance to the company and to the industry of production research activities."

The new company, called Jersey Production Research Co., will take over Carter Research Laboratories in Tulsa, and various existing patents, processes, and agreements related to exploration and production.

•

A 130,000-acre tract in Kentucky and Tennessee has been leased for the first time for oil and gas exploration—despite the fact that a flowing oil well was completed in the area 140 years ago.

The property, acquired by Barnwell Production Co. from Stearns Coal & Lumber Co., lies in McCreary County, Ky., and adjoining Scott County, Tenn.

Back in 1818, Marcus Huling and Andrew Zimmerman used a spring pole rig to drill a salt well. At about 200 ft., the well flowed oil at the rate of 100 b/d for several days, then declined gradually and ceased.

The well, located on the Beatty tract in McCreary County, is said to be the first flowing, commercial oil well in the Western Hemisphere.

•

The future of the natural gas industry and the applications of petroleum research were among the papers presented at the annual meeting of the Society of Petroleum Engineers of AIME, last week in New York (PW—Feb.21'58,p20).

The largest part of our natural gas reserves are yet to be discovered, said L. F. Terry, of Lehman Bros., and J. G. Winger, of the Chase Manhattan Bank. For the past ten years, they said, exploration has found 2 cu. ft. of reserves for each cu. ft. of gas produced. Production was 10.8-trillion cu. ft. in 1956; it's estimated that this will rise to 16.3-trillion cu. ft. in 1966. To provide reserves for such increased production will require the finding of some 230-trillion cu. ft. of new gas during the next decade.

From the standpoint of the sponsoring company, research that is not applied is unsuccessful research, said Harold Gershinowitz, president, Shell Development Co. Therefore, he said, the application of the results must be considered a part of the research program. Research for exploration and production differs from manufacturing research in that it has no specific end product. Instead, he said, what comes out is a technique or insight.

•

Paul Jones, chairman of the Navajo tribal council, says he is concerned over the condition of the reservation land, due in part to oil and gas operations on the reservation.

"The way of life of the Navajos has been completely changed because of the oil and gas development," he says. He reports that the tribe now has an oil expert patrolling the Aneth area to enforce compliance with regulations and to endeavor to hold range damage to a minimum.

•

Continental-Emsco Co. has begun a $5-million plant expansion program, reflecting what it calls "full confidence" in the industry.

Fred Mayer, president, says the program is primarily aimed at doubling the size of the company's Houston plant, despite today's "dreary" economic situation.

"Some people might think we are candidates for the psychiatrist's couch, doing this under today's conditions," said Mayer. "The oil business is dreary today, but we've seen conditions much worse in the past. We have full confidence that our judgment will be proved out over the years."

The first phase of the program is a 20,000-sq. ft. addition to double the space in the plant's office building.

•

The Arkansas Water Pollution Commission may soon require opera-

tors to obtain permits to dispose of salt water produced in drilling new tests, says James McHaney, an attorney for the commission.

The commission may also require permits for disposal of salt water for any wells drilled since 1949, McHaney says.

•

The U.S. Geological Survey has approved the newly-formed North Springs Unit, Carbon and Emery Counties, Utah.

The block includes 7,490 acres, southeast of Price on the Wasatch Plateau.

Shell Oil Co. is operator, and is now drilling below 3,000 ft. at a scheduled 12,000-ft. Mississippian test on the unit.

•

Oil and gas leases on 23,647 acres of state-owned land will be offered Mar. 13, at the first 1958 sale by the Montana Land Board.

Land Commissioner Lou E. Bretzke says applications received for the 54 tracts to be offered show the best interest since 172 leases were granted last May.

Interest is centered in Pondera and Teton Counties, where there is production, and in Sweet Grass and Stillwater Counties, in south-central Montana.

All leases will be for wildcat acreage.

•

A $14-million "double damages" monopoly suit over production of natural gas in Northern California's Thornton field has been filed in the Sacramento County Superior Court.

Defendants are Pacific Gas & Electric Co., distributor of natural gas, and Amerada Petroleum Corp., Honolulu Oil Corp., and Bankline Oil Co., gas producers.

The suit charges that defendants conspired to hold down production from Thornton field wells, and dictated the price to be paid, because PG&E is the only outlet for the gas.

Action was filed under the state antitrust laws by a group of landowners in the Thornton field.

•

Drilling Highlights

Oklahoma—The Texas Co. No. 1 Barby, section 10-1n-22e, Beaver County wildcat 7 mi. from production, recovered 4,110 ft. of 37.5-gravity oil, and gas at the rate of 168,000 cu. ft. daily, on 2-hour drillstem test of the Checkerboard (Pennsylvanian) at 6,031-53 ft.

In Harper County, Magnolia Petroleum Co. has added a triple-completion to the Laverne district at No. 1 Stinson-Dexter, section 1-26n-25w. Yield was 9.1-million cu. ft. of gas daily through Hoover (Pennsylvanian) sand perforations at 4,227-307 ft.; 9.7-million cu. ft. of gas daily with 17 bbl. of distillate per million through Morrow (Pennsylvanian) perforations at 6,832-79 ft.; and 5.6-million cu. ft. of gas daily with 4½ bbl. of distillate and 9 bbl. of water per million through Chester (Mississippian) perforations at 6,912-7,130 ft.

Alberta—Phillips Petroleum Co. No. 10-3-A Kaybob, 64-19w5, was completed for 3,274 b/d of 45.3-gravity oil through ¾-in. choke. Production is from the Beaverhill Lake (Devonian) at 9,700 ft. The well is 2¾ mi. south of Phillips' No. 1 Kaybob, discovery for the Kaybob area.

Northeast Louisiana—Roger J. Bassett No. 1 Lee Lumber Co., section 17-3n-2e, Rapides Parish discovery for the Ruby field, was completed for 54 b/d of 48-gravity oil through 10/64-in. choke and perforations at 6,442-44 ft. in the Wilcox.

In Ouachita Parish, Arkansas Louisiana Gas Co. No. 1 H. R. Fuller Unit, section 34-18n-1e was completed as a Cotton Valley D sand discovery in Calhoun field for 8-million cu. ft. of gas daily and 4 bbl. of distillate per million through ⅜-in. choke and perforations at 9,234-48 ft. and 9,252-58 ft. The well is 1 mi. east of No. 1 Pipes Estate, completed as a gas-condensate discovery in the Cadeville sand.

Wyoming—Skelly Oil Co. No. 1 Government-Dunning, section 19-52n-67w, Crook County, was completed to pump 98½ b/d through perforations at 3,870-90 ft. in the Muddy (Cretaceous). The well, 1½ mi. north of Muddy production in West Moorcroft field, had some shows in the Minnelsua (Pennsylvanian), which generated considerable excitement. But tests were unsuccessful.

Alaska—Standard Oil Co. of California has suspended operations at 12,046 ft. at No. 2 Swanson River Unit, 2 mi south of the Kenai Peninsula discovery. The company is moving the rig 60 mi. southwest to drill No. 1 Deep Creek Unit, in the vicinity of Cape Ninilchik. Seven-inch casing was cemented to 11,650 ft. in the No. 2 Swanson River, but no information has been released as to whether any tests were made.

North Texas—Hamman Oil & Refining Co. et al No. 2 Lewis Johnson et al, R. Parker survey, A-461, Jack County Bryson sand discovery, flowed 127 b/d of 39.6-gravity oil through 16/64-in. choke and perforations at 3,854-58 ft.

California—Universal Consolidated Oil Co. No. 3-F 20th Century Fox, section 26-1s-15w, Los Angeles County, proved up a new pay in Miocene sand under the film studio property, flowing 576 b/d of 25.5-gravity oil through 28/64-in. choke. Total depth is 3,729 ft.

Also in Los Angeles County, the deepest test scheduled for California in the past seven years will be spudded in Newhall-Potrero field. Sunray Mid-Continent Oil Co. No. 147 RSF, section 26-4n-17w, is scheduled as an 18,000-20,000-ft. deep zone test for the field, which produces from various zones between 6,400 ft. and 14,500 ft.

Colorado—Shell Oil Co. No. 1 Federal Land Bank, section 31-34s-44w, Baca County, flowed and swabbed 101 bbl. of 31-gravity oil and 78 bbl. of bs&w on 24-hour test of the Des Moines (Pennsylvanian), topped at 4,023 ft. The wildcat, 20 mi. west of gas production, is the first indicated oil discovery for the county.

North Dakota—Kerr McGee Oil Industries, Inc., and Argo Oil Co. No. 1 Johnson Estate, section 34-162n-101w, Divide County, yielded 18½ bbl. of oil per hour for 12 hours on the swab. Recovery was through perforations in the Red River (Ordovician) at 11,305-26 ft. and 11,336-46 ft. The wildcat is 34 mi. west of Noonan field, where production also is from the Mississippian.

New Mexico—W. R. Weaver and A. N. Brown No. 1 McAdams, section 34-27n-10w, San Juan County, flowed an estimated 10-million cu. ft. of gas daily through Gallup perforations at about 6,272 ft. Some distillate and oil were recovered with the gas on the 72-hour test. The new pay discovery is in the Fulcher-Kutz area, which produces mostly from the Pictured Cliffs.

Utah—Shell Oil Co. No. 24-5 Bluff Unit, section 5-40s-23e, San Juan County, was completed for 1,690 b/d from the Hermosa, bottomed at 5,755 ft. The well is 1 mi. southwest of present production and is one of the largest completions in the area.

Can Microbes Recover Shale Oil?

Bureau of Mines believes microbes will give a lot of answers about shale oil—maybe including its recovery.

Microbal recovery of shale oil, if it comes up to Bureau of Mines hopes, could mean unlimited supplies of inexpensive liquid fuels for the future in the U.S.

A Bureau of Mines laboratory at Laramie, Wyo., is conducting experiments to find microbes that will "feed" on oil shale, thus liberating "free" oil (PW—Jan.10'58,p36).

Commercial development and application of such a process could in time revolutionize the U.S. petroleum industry, according to Dr. Simon Klosky, assistant chief of the Bureau's branch of oil shale.

With the right process, yet to be found, the U.S. could recover 959-billion bbl. of oil from the shale in the northwest corner of Colorado alone.

There is no "crash" program involved. The three-year-old Bureau of Mines experiment has progressed from a part-time study by one man to a full-time study by that same man.

Time and patience are needed for this kind of research. These take the place of manpower and money, government scientists say. So, even if more funds and more manpower were made available, there is little likelihood that there would be any sudden breakthrough.

Noel M. Melton, the scientist conducting the Bureau's microbal experiments, has collected and tested ten or twelve common varieties of microbes for his oil shale studies to date. Two of these microbal samples have apparently liberated "something."

The "something" may turn out to be a product different from that obtained by high-temperature retorting (the present method for separating kerogens, the hydrocarbon precursors in oil shale) at over 900F. In fact, the government scientists hope the product will be different.

Though enthusiastic about the ultimate development of shale oil, government scientists are extremely cautious about predictions for the experiments with microbal recovery.

Dr. Klosky, for one, has expressed caution. And it is shared by another eminent government scientist, Dr. Walter N. Ezekiel, Bureau of Mines microbiologist and founder of the National Society of Industrial Microbiology.

There are two reasons for this caution. First, the research program is in its embryonic stage. Second, the Bureau of Mines is, at this point, more interested in basic research into a little-known field than in any immediate commercial development.

There is good reason to believe, however, that previous experience with microbes can be adapted to make a commercial process to recover shale oil.

Scientists have known for years that microbes that "feed" on certain substances would, in the same process, not attack related material.

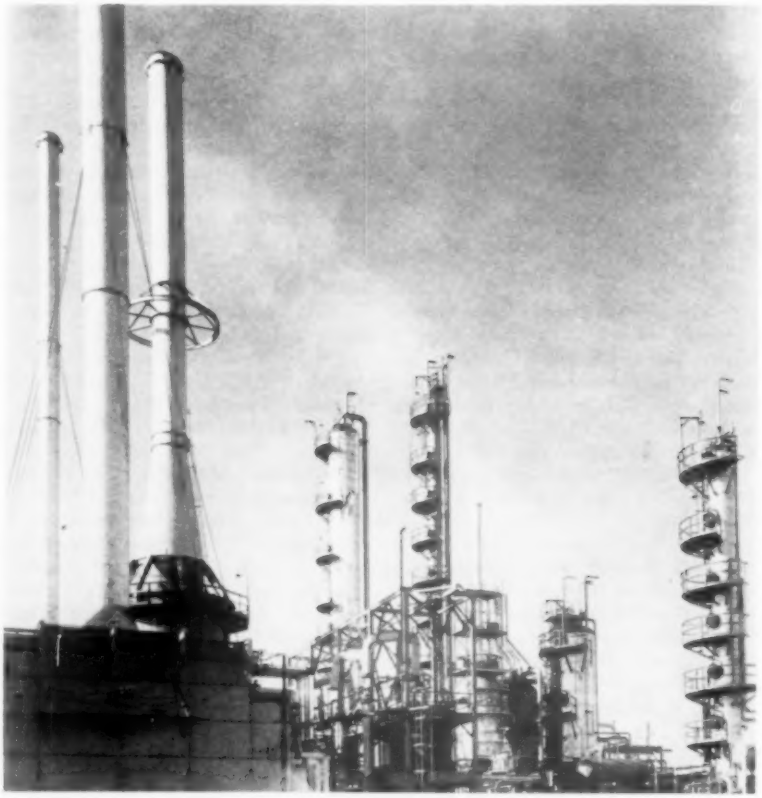
Microbes can be found to perform specialized tasks. They are used in sewage disposal and removal of waste hydrocarbons from process streams.

For application to the recovery of shale oil, microbe families must be found that will feed on the shale, but not consume the hydrocarbons.

A patent assigned to Texaco Development Corp. in 1953 is a starting point for microbal recovery of shale oil.

The patent, issued to Claude E. Zobell, of the Scripps Institute of Oceanography, was for particular kinds of desulfurizing microbes that could be used to recover shale oil.

But in the nearly five years since



Esso Completes 7,200 b/d Powerformer

Esso Standard Oil Co.'s new Powerforming unit has been completed at the company's Everett (Mass.) refinery. Capacity of the catalytic reformer is 7,200 b/d. Badger Mfg. Co. of Cambridge, Mass., did the construction work on the new unit.

An interesting feature in this, the third Esso Powerformer to be completed, is the use of "stilts" to support the unit on the marshy tidelands of the area.

to all NATURAL GASOLINE MEN

GREETINGS

from the

NATURAL GASOLINE SUPPLY MEN'S ASSOCIATION

We are looking forward to seeing you at the
THIRTY-SEVENTH ANNUAL CONVENTION
of the NATURAL GASOLINE ASSOCIATION of AMERICA
April 16-18, 1958, Baker & Alalphus Hotels, Dallas, Texas

Members of the Natural Gasoline Supply Men's Association

The Aber Company
Airetool Mfg. Co.
Air Products, Inc.
M. N. Aitken Company
Alco Products, Inc.
Alliger & Sears Co.
Allis-Chalmers Mfg. Co.
Aluminum Company of America
American Air Filter Co., Inc.
American Meter Co., Inc.
A. P. I. Constructors, Inc.
Aquatrol, Inc.
Armco Drainage & Metal Products, Inc.
Arrow Industrial Mfg. Co.

Barton Instrument Corp.
J. B. Beaird Company, Inc.
Bellco Industrial Engineering Co.
The Belmas Company, Inc.
Berry Hydraulics-Div. Oliver Tyrone Corp.
Bethlehem Supply Company
Betz Laboratories, Inc.
The Bird-Archer Company
Black, Sivalls & Bryson, Inc.
Bowden Construction Co., Inc.
Braden Steel Corp.
L. J. Brammer & Sons
C. F. Braun & Company
Briggs Filtration Co.
Brown Fintube Company
Brown and Root, Inc.
Burgess-Manning Co.
Butane-Propane News
Byron Jackson Pumps, Inc.

Cameron Iron Works
Candoo Construction Co., Inc.
John H. Carter Company
Chemical Service, Inc.
Chicago Bridge & Iron Co.
Clark Bros. Co., Inc.
Climax Engine & Pump Mfg. Co.
Clowe & Cowan, Inc.
The Condit Company
Continental Products of Texas
Continental-Emsco Company
C. Lee Cook Mfg. Co.
The Cooper-Bessemer Corp.
S. C. Covington Co., Inc.
Coynco Products, Inc.
Crane Packing Company
W. H. Curtin and Company

Daniel Orifice Fitting Co.
Davis Regulator Company
Davison Chemical Co.
Dean Brothers Pumps, Inc.
Dearborn Chemical Company
De Laval Steam Turbine Co.
Delta Engineering Corp.
Delta Tank Mfg. Company
Dixie Iron Works
Dresser Engineering Company
E. I. duPont deNemours & Co., Inc.

Allan Edwards, Inc.
Eggelhof Engineers
John W. Elder Company
Elliott Company
Elsey Corporation
Engine Life Products Corp.
Engineering Equipment Co.
Engineers & Fabricators, Inc.
Ethyl Corporation

Farnsworth & Chambers Co., Inc.
Farris Engineering Corporation
The Fish Engineering Corp.
The Fisher Governor Company
Flint Steel Corporation
Flow Measurement Co.
The Fluor Corporation, Ltd.
Fluor Products Company
The Foxboro Company
France Packing Company

Gardner-Denver Company
The Garlock Packing Company
Gas Equipment Co., Inc.
Gasoline Plant Construction Corp.
General American Transportation Corp.
General Electric Company
J. B. Gill Company, Inc.
Fritz W. Glitsch & Sons, Inc.
Goulds Pumps, Inc.
Graver Tank & Mfg. Co., Inc.
The Griscom-Russell Co.
Grove Valve & Regulator Co.
Gulf Engineering Co., Inc.

D. W. Haering and Co., Inc.
Hammel-Dahl Company
The Happy Company
Wyatt C. Hedrick Engineering Corp.
Hercules-Lupfer Engine Sales Co.
Hubbard Electric Company
T. F. Hudgins & Associates, Inc.
Hudson Engineering Corp.

Industrial Scientific, Inc.
Ingersoll-Rand Company
Insulation & Specialties, Inc.

Jones & Laughlin-Supply Div.
Joy Manufacturing Co.

Kansas Paint and Color Company
The Koch Engineering Company
James S. Kone & Company

Ladish Company
Warner Lewis Company
A. M. Lockett & Co., Ltd.
The Lubricosos Specialties Mfg. Co.
The Lunkenheimer Company

Maintenance Engineering Corp.
F. H. Maloney Company
Manning, Maxwell & Moore
Manzel, Inc.
Market Development Div., Phillips Petroleum Co.
The Marley Company, Inc.
Chas. Martin & Company
The Marsh Company
Marsh Instrument & Valve Co.
Massey Machine Div. Curtiss-Wright Corp.
C. A. Mathey Machine Works
McCord Corporation
Lynn McGuffy Company
J. R. Meek Company
Mid-Continent Supply Co.
Minneapolis-Honeywell Regulator Co.
Moorlane Company
Moran Furnace & Sheet Metal Co.
The Mott Company

National Aluminate Corp.
National Tank Company
Naylor Pipe Company
Nickles Machine Corporation
Nitrogen Division Allied Chemicals & Dye Corp.
Nordstrom Valve Div., Rockwell Mfg. Co.
Wm. W. Nugent & Co., Inc.
Nutter Engineering Co.

The Ohio Injector Co.
The Oil & Gas Journal
The Oil Daily
Oil Well Supply Div. U. S. Steel Corp.
Olin Mathieson Chemical Corp.
O. L. Olsen Company
Orbit Valve Company

Pacific Pumps, Inc.
Paramount Supply Company
Peerless Mfg. Co.
Perry Equipment Corp.
Petro-Chem Development Co., Inc.
Petrocon Engineering Co.
The Petroleum Engineer
Petroleum Refiner
Petroleum Week
Phelps Dodge Copper Products Corp.
Pierce Construction Co.
Pittsburgh Div.-Rockwell Mfg. Co.
Plibrico Company
Podbielniak, Inc.
Pona Engineers, Inc.
Power Machinery Co.
Power Specialty Co.
J. F. Pritchard & Co.
Process Equipment Co.
Procon, Inc.
Puffer-Sweiven, Inc.

Edward G. Ragatz Company
Rawson and Company
The Refinery Supply Company
Riddle and Hubbell
Robinson Orifice Fitting Co.
Rockwood Sprinkler Company
Rogers Steel Corp.

E. W. Saybolt & Company
A. O. Smith Corporation
Smithco Engineering, Inc.
Snyder Company, Inc.
Southern Engine & Pump Co.
Southern Petroleum Laboratories
Southwest Industries, Inc.
Stearns-Roger Mfg. Co.
N. C. Stearns Company
Stitt Ignition Company
Stockham Valves & Fittings
Superior Mfg. Co.

Taylor Forge & Pipe Works
Taylor Instrument Companies
Tellepsen Petro-Chem Constructors
The Tennant Co.
Termomeccanica Italiana, SpA
Trinity Steel Company, Inc.
Tube Turns Div.—National Cylinder Gas Co.
Tuloma Builders, Inc.
Tyler-Dawson Supply Co.

Union Steam Pump Sales Co.
United Centrifugal Pumps
United Chemical Corp.
Universal Oil Products Co.

Vinson Supply Company
Vulcan Steel Tank Corp.

Walco Engineering & Constr. Co.
Walworth Company
Weil Equipment Division of Chiksan Company
Westcott & Greis, Inc.
Western Chemical Co., of K. C., Mo.
Western Chemical & Supply Co.
Western Supply Company
The Wickes Boiler Co.
Wilson Supply Co.
Wolverine Tube Division
Woobank Machinery Co.
World Petroleum
Worthington Corporation
Wright Chemical Corporation
Wyatt Metal & Boiler Works

John Zink Burner Company

Zobell received his patent, little new information has been developed in this nearly unexplored field.

A successful conclusion to the experiments will, the Bureau of Mines hopes, give the answers to four basic questions.

To date there is much speculation —but little specific knowledge—on:

(1) What is oil shale?

(2) What is shale oil?

(3) How does shale oil resemble petroleum?

(4) How do you get from oil shale to shale oil economically?

What's New / IN PROCESSING

Expansions of urea capacity are planned by Allied Chemical & Dye Corp. and Grace Chemical Co.

Allied's nitrogen division will boost the capacity of its South Point (Ohio) plant (now at 80,000 tons a year) up to 110,000 tons a year. Completion is scheduled for late 1958.

Grace will add to and modify its existing facilities at Memphis, Tenn. Production is to be upped about one-third above its present rate (estimated at 55,000 tons a year).

•

Davison Chemical Co. has introduced a new catalyst for hydrogen treating processes in refineries.

Called Nicomo 1, the new catalyst is a nickel-promoted cobalt-molybdenum type. The catalyst is said to have a special low-density alumina base.

•

Frontier Refining Co. and its top officials have a major interest in high-energy fuels through the newly formed Metal Alkyls Corp.

Among the purposes of Metal Alkyls, which is being privately financed, is to develop, test, and produce high-energy fuels based on metal alkyls.

The firm has already begun pilot runs of the new fuels, and a large plant near Denver is on standby, ready for production as soon as demand is heavy enough.

•

Research into tomorrow's fuels and oils for cars, aircraft, and rockets is the aim of a new laboratory unveiled by Shell Development Co.

The new facility is located at Emeryville, Calif. It houses the company's fuels and engine lubricants department, and represents an investment of $750,000.

This is the latest addition in Shell Development's multimillion-dollar expansion program at Emeryville.

•

A sulfuric acid plant, being built for Allied Chemical & Dye Corp. at Anacortes, Wash., is scheduled for completion by midyear.

The plant, to cost $1-million, will supply acid to Shell Oil Co.'s adjacent refinery.

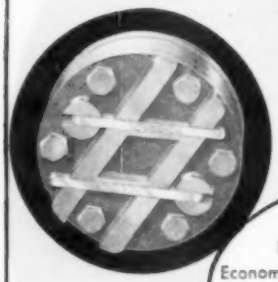
•

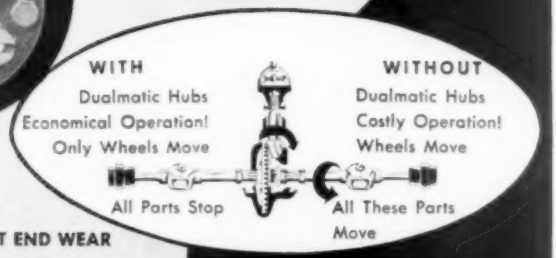
Callery Chemical Co. has let contracts for a large phase of its HiCal high-energy-fuel plant.

The $10.3-million contract for Callery's Muskogee (Okla.) boron fuels plant has been awarded to Macco Corp. and H. K. Ferguson Co.

SAVE 40%

Free Wheeling Selective Drive Hubs for All 4 Wheel Drive Trucks from Jeep to 5 Ton. Guaranteed - Damage Proof.





- STOP FRONT END WEAR
- STEERING BECOMES EASIER
- MAKES TIRES LAST LONGER
- CUT COSTLY REPAIR BILLS
- REDUCE ENGINE WEAR
- MORE POWER—SAVE GASOLINE

PARTIAL PRICE LIST

Make & Model of 4 Wheel Drive Trucks	Dualmatic Set No.	List Price	Amount Sets to Each Order One	Three	Six
Chevrolet ½ Ton 3100 Series 1957-58	C-75	$65.00	$49.50	$46.50	$45.00
Chevrolet ¾-Ton 3600 Series 1957-58	C-85	$65.00	$49.50	$46.50	$45.00
Dodge W-100, W-200 1957-58	D-95	$65.00	$49.50	$46.50	$45.00
Dodge WC 50, WC 60, W-300 1957-58	D-10	$65.00	$49.50	$46.50	$45.00
GMC 100, 101, 102, Series 1956-57 Models ½ Ton	G-15	$65.00	$49.50	$46.50	$45.00
GMC 150-250 Series ¾ and 1 Ton 1956-57 Models Factory Installation	G-20	$65.00	$49.50	$46.50	$45.00
International Harvester A 120 S 120 Series	I-25	$65.00	$49.50	$46.50	$45.00
Willys Jeep All Models	J-5	$59.00	$47.50	$45.00	$42.50

Dualmatic Available For All 4 Wheel Drives. Similarly Priced. Order by Model and Year.

FLEET OWNERS: Order From Your Automotive Jobber or Write Direct to

DUALMATIC

PRODUCTS CO., LONGMONT, COLORADO

Louisiana Right-Of-Way Troubles Rise

Pipeline companies in Louisiana are running smack into a new hike in right-of-way costs, this time from state agencies.

The State Land Commission has scheduled a "discussion meeting" for Thursday, Mar. 6, when it intends to present new demands to the 30-odd pipeline companies that operate crude, products, and natural gas lines in the state. Other state agencies are expected to issue similar demands after the meeting "sets some precedents."

It's possible, however, that the issues will be settled before the meeting.

The Louisiana officials are "asking for"—among other things—a substantial hike over present right-of-way payments for use of state land.

Present rates are $1 per rod (16½ ft.) across water, and $2 overland. The state seeks to boost this to $3 and $4 respectively.

The pipeliners will have little to say about the increase, mainly because a Louisiana law gives the state the right to raise such rates arbitrarily.

The law is Act 215 of 1916, which authorizes the governor and the state register to grant rights-of-way. The original rates set under the 1916 law are still in effect, and the Land Commission feels that the planned boost would only bring such rates "up to modern standards."

The pipeline companies have another reason for accepting the increase without a fuss: a very real threat of legislation that could impose an even greater increase. One legislator is said to be planning a bill to boost the right-of-way rates twice as high as those the land office seeks.

However, special state agencies, like the Dept. of Wildlife & Fisheries, could seek slightly different right-of-way rate increases than the Land Commission.

This department has the authority to handle right-of-way negotiations for such areas as game preserves and oyster bottoms. Because these are numerous throughout the state, they're often found to be in the path of a proposed pipeline.

So this department is an important element in the Louisiana right-of-way picture.

Other state departments—such as the highway and university departments—also have separate authority to grant rights-of-way.

But the pipeline companies may get state officials to tone down other very important demands.

State officials have also been pushing for new, burdensome right-of-way easement restrictions, and it's hoped among pipeliners that the increased right-of-way rates may soothe some of the principal backers of such restrictions.

The present highway construction and widening program in Louisiana has caused most of the right-of-way problems. First of all, such a program requires money, and the increased right-of-way fees will help pay for it.

The actual construction and improvement of roads, however, also creates problems. For instance, the state has been trying to get pipeline companies to pay their own costs of moving pipelines when new or improved roads require such moves.

The companies have been fighting this, successfully so far; they won a court case last fall in which such costs were ruled the responsibility of the state.

But state officials say the court battle on such issues is far from over.

Perhaps the most important of such demands is the state's drive to limit right-of-way tenure to 20 or 30 years. Up to now, such tenure has been perpetual.

Pipeliners are far more alarmed over this state proposal than they are about the right-of-way rate increase.

They say the primary danger of the proposal is its likely effect on pipeline financing. Renewal of right of way every 20 or 30 years, they contend, would make unsure a pipeline's right of way for a line already in existence. And most lending agencies require strict right-of-way stability before making loans.

Other demands, like those concerning burial depth and limitation of the final right-of-way width to pipe diameter at completion of construction, the pipeliners feel, are both irritating and useless.

Local Louisiana authorities may also get in on the raise-the-cost-of-right-of-way pitch.

Just about all of the state's parishes have been after more money for operating and capital outlay. So it's entirely possible that they will follow the state government's lead in asking for higher right-of-way payments for pipeliners' use of their lands. (Each of the governing agencies below the state level has power to set its own right-of-way rates.)

The current Louisiana situation is important because right-of-way payments to state and local governments have a significant, although not critical, effect on the growing over-all right-of-way costs.

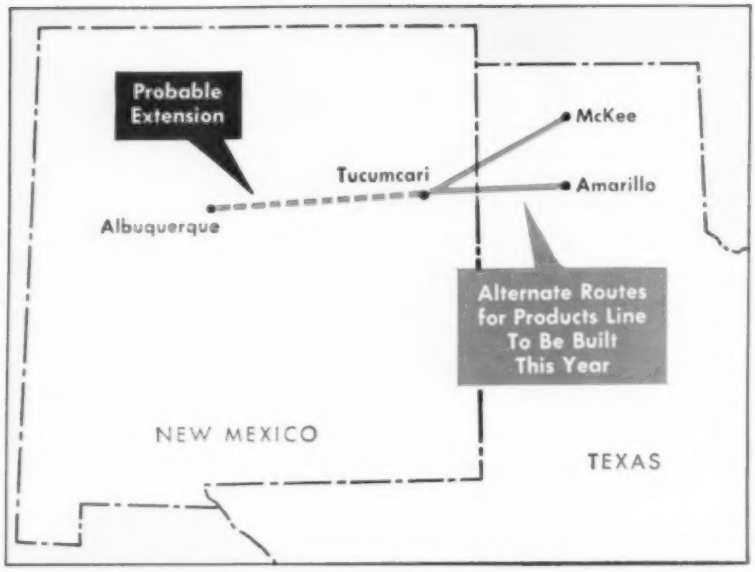
Such over-all right-of-way costs are rising mighty fast. One recent estimate has it that these costs in the U.S. have been increasing at the rate of 10% to 20% per year for the past five years.

"If the current trend is not checked," PETROLEUM WEEK was told, "the day may be foreseen when upward of 25% of the cost of a new pipeline may be charged to right-of-way."

Until recently, right-of-way costs generally accounted for only 3% of the total cost of a new line.

'Crocodile' Tanker

Here's what those German-made plastic bags for carrying crude or products (PW—Dec.20'57,p48) look like. This one, shown being tested in Hamburg harbor, is almost 100 ft. long and has a capacity of 20,000 tons. It's designed to be towed by a seagoing tug. When emptied, it can be stored in a relatively small space. Other, smaller models of the bag are also being developed in Germany.



NEW PRODUCTS LINE from the Texas Panhandle will definitely go as far as Tucumcari, N.M.—and probably all the way to Albuquerque. By late 1958 . . .

Panhandle Products Will Go West

Chances are now good that the first products line between the Texas Panhandle and Albuquerque, N.M., will be in operation by the end of 1958.

The growing Albuquerque market is now served by only one products line, a 6-incher from the El Paso refinery of Standard Oil Co. of Texas. Other companies that market in the area truck their products in—most of them from small refineries in either the northwest or southwest corner of the state.

Shamrock Oil & Gas Corp., which has long planned a products line from its Panhandle refinery to Tucumcari, N.M., is now talking with would-be partners for a line which would go all the way to Albuquerque, (map).

Last summer (PW—Aug.16'57, p58), it was learned that a Shamrock affiliate, Emerald Pipe Line Corp., planned a 120-mi., 6-in. line from Shamrock's McKee refinery, near Sunray, Tex., to Tucumcari.

After some preliminary work, it was decided to hold up on the Tucumcari line and investigate another approach to moving Panhandle products into New Mexico. Shamrock took up a study with other companies that have Panhandle refining capacity to determine the feasibility of a jointly owned line from Shamrock's Amarillo terminal all the way to Albuquerque by way of the Tucumcari terminal already under construction.

The negotiations are "progressing nicely," and a decision is expected soon.

None of the other would-be participants have been positively identified. But intelligent guessers have named Phillips Petroleum Co. and The Texas Co.

Phillips has done nothing to discourage such talk. In fact, at a recent New Mexico State Corporation Commission meeting, a Phillips representative, D. E. Furnas, dropped a hint to support the rumors; he said that by the end of 1958 his company would need truck transportation service for distributors from the pipeline terminals at Tucumcari and Albuquerque.

Shamrock's recently issued annual report tells the company's stockholders, "It is expected that the construction of the pipeline will soon be commenced, either directly from the McKee refinery to Tucumcari, or from the company's terminal at Amarillo to Albuquerque."

"The new terminals," the report continues, "including additional terminal facilities at Albuquerque to be constructed when and if the line is built to Albuquerque, will enable Shamrock substantially to expand its competitive marketing areas in portions of Kansas, Oklahoma, New Mexico, and Arizona."

Just how much Panhandle product will move into New Mexico is still uncertain. This is one of the main questions of the feasibility study.

What's New

Capacity Increase for Northwest Crude Line

Interstate Oil Pipe Line Co. will increase the capacity of its Wyoming-to-Billings (Mont.) northwest crude line from 52,000 b/d to 65,000 b/d.

The increased capacity will result from conversion of the Silver Tip pump station in the Billings district to electric power. Interstate will begin replacement of gas-engine pumping units with the electric engines some time this spring. The conversion is expected to be completed by summer.

The increased capacity, Interstate says, will be necessary to supply the growing crude appetite being developed by the three refineries that the line serves.

•

Interprovincial Contract

Interprovincial Pipeline Co. has awarded the contract for its 1958 looping program to Piggott Construction Ltd.'s pipeline division, Calgary.

The looping program (PW—Jan. 17'58,p53), will begin June 1, and is expected to be completed Sept. 1. The loops will give Interprovincial a double line between Edmonton and Superior, Wis.

•

El Paso Natural Gas Co. and Southern Natural Gas Co. have asked the Federal Power Commission for permission to build new natural gas gathering facilities—each costing $4-million.

El Paso would build its facilities in Crane and Pecos Counties, Texas, enabling it to buy an additional 50-million cu. ft. of gas daily from the Puckett field in Pecos County. The $4-million would be spent on 68 mi. of gathering lines and a dehydration unit.

Southern Natural would build its facilities to increase its gas supply in southern Louisiana.

•

The Interstate Commerce Commission has just formed a new Oil Pipeline Advisory Committee to aid in "collecting, summarizing, and con-

IN TRANSPORTATION

sidering" data for ICC's annual price indices.

The new committee consists of 39 industry members and 6 alternates. It replaces the API Engineers-Accounts Valuation Committee, which until recently, had been used to allow pipeline companies to justify inequities in proposed ICC valuations (PW—Jan.10'58,p46).

The new commission is headed by Howard L. Domingus, chief of valuation for ICC's bureau of accounts, cost finding, and valuation.

•

The Federal Power Commission has approved natural gas expansion plans recently submitted to it by United Gas Pipe Line Co. and Arkansas Louisiana Gas Co.

United received permission to build facilities totalling $3-million, and Arkansas Louisiana got permission for a $2.2-million expansion.

•

There may be an increase soon in Louisiana's natural gas gathering tax.

Supporters of legislation to raise the gas gathering tax got new encouragement recently when Gov. Earl Long said he would approve such a bill. The increase would be used to increase Louisiana teachers' salaries.

•

Southern Pacific Pipe Lines, Inc., has just completed a new product storage system at Imperial, Calif.

Southern's Imperial storage plant, a seven-tank, 6-million-gal. facility, was recently connected to Los Angeles refineries by a 27-mi. pipeline. Earlier this month, another line, this one 4 in. in diameter, was laid from the storage tanks to the El Centro Naval Auxiliary Air Station 7 mi. away.

•

The American Petroleum Institute has just issued a new manual on cleaning mobile tank cars used to transport flammable liquids. The manual is called API Accident Prevention Manual No. 13B: Cleaning Mobile Tank Cars Used for Transportation of Flammable Liquids: Section B—Tank Cars. It's available—at $1 a copy—at API's New York Office.

SERVICE STATION FOR JET FIGHTERS

High-flying tankers refuel supersonic jet fighters by a completely automatic "probe" and "drogue" method. A vital feature of this technique is a compact, easy-to-handle hose and integral coupling assembly developed and manufactured by Hewitt-Robins. This aerodynamically balanced hose trails at high speed without wobbling, absorbs tremendous shock loads and buffeting, and provides maximum safety for both aircraft and crew.

Inflight Refueling Hose is only one of the many special types of hose which Hewitt-Robins has developed for producers, marketers, and users of petroleum products. To find out how H-R products and services can help you, consult your classified telephone directory for the nearest H-R representative, or contact Hewitt-Robins, Stamford, Connecticut.

HR HEWITT-ROBINS

CONVEYOR BELTING AND IDLERS...POWER TRANSMISSION DRIVES
INDUSTRIAL HOSE...VIBRATING CONVEYORS, SCREENS & SHAKEOUTS

These Are Venezuela's Oil Watchdogs—They're Fa

(Seventh in a series of on-the-spot Venezuelan reports)

CARACAS—Governments may come and go, but there's a remarkable degree of continuity and stability to Venezuela's oil policies.

This is due, in no small measure, to the four men pictured here: Dr. Gustavo Thery Fombona (right), 45-year-old director of the Bureau of Hydrocarbons, and his three division chiefs (next page).

Behind them comes a string of some 30 to 35 engineers (many trained in the U.S.), field inspectors, and other technicians comprising the 450-man bureau—largest, and most important, of the five divisions of the Ministry of Mines & Hydrocarbons (the others: mines, economics, geology, research).

The Bureau of Hydrocarbons serves as the watchdog of Venezuela's chief asset: the oil industry (which provides some 70% of the government's revenues and something like 90% of the nation's foreign exchange income).

A more respected, sophisticated, and technically proficient group of government oil experts would be hard to find anywhere.

Dr. Thery himself has served 26 years in the bureau. His three division heads have had 18 to 20 years' service each. Most of the rest of the staff—60 to 70 of whom are stationed in Caracas, the rest out in the field—have had 10 to 15 years' experience, many in actual oil field work.

Comments one American oil official, with wide experience:

"With the exception of the Texas Railroad Commission, there isn't a state oil regulatory body in the U.S., nor anywhere else in the world for that matter, that is more technically competent, impartial, dedicated to its job, or more removed from political influence."

* * * *

All these officials retained their posts despite the recent government upheaval. This came as no surprise to anyone familiar with the Venezuelan oil picture—for oil regulation has developed into something closely resembling a government civil service in Venezuela.

DR. GUSTAVO THERY FOMBONA, widely respected in world oil circles, directs Venezuela's oil regulatory body, the Bureau of Hydrocarbons.

Ever since the 1943 Petroleum Law carefully spelled out the terms and conditions of oil operations, a remarkable trend has developed in Venezuela. Despite political upheavals, the country has sought (1) to keep its chief asset out of politics, and (2) to leave administration of this asset in the hands of experienced technicians, not politicians.

More recently, this trend has even been adopted at the Cabinet level. Thus, the newly appointed Minister of Mines & Hydrocarbons, Dr. Carlos Perez de la Cova (page 16), counselor of the Venezuelan Embassy in Washington, is not a politician. Like his last two predecessors, he is a technician (petroleum engineer) and long-time member of the Bureau of Hydrocarbons.

Even when the Cabinet oil post goes to a political appointee, however, the Bureau of Hydrocarbons inevitably carries considerable influence. Governments quickly learn to respect the experience of the bureau's officials and their knowledge of the complexities of the petroleum industry.

* * * *

At any rate, one thing is certain: This bureau commands the respect, even the admiration, of the oil men operating in Venezuela.

Why? Oil men, both at headquarters in Caracas and in the oilfields, were unanimous in these answers:

• The officials of the bureau are realistic—not theoretical or academic—in their approach. They have built up over the years a vast amount of knowledge of the in-

Fair, Tough, and Competent

dustry and its operating problems.

• They are fair and cooperative—always ready to sit down and talk over problems with the oil companies, rather than issue rulings, arbitrarily.

• They are totally lacking in the "chip on the shoulder" attitude so often found among government oil administrators in so many countries.

• Many are top-notch technicians themselves, a match for the industry's own top experts. Dr. Thery, for instance, not only has 26 years' experience in oil administration, but is a trained engineer, and holds a doctorate in physics and mathematics. All three division chiefs—Dr. Plaz, Dr. Cordero, and Dr. Monsalve—hold petroleum engineering degrees from Oklahoma universities as well as civil engineering degrees from Caracas University.

• They stay strictly out of politics.

• They keep abreast of the latest scientific developments in the oil industry. Bureau of Hydrocarbons members attend meetings of the Interstate Oil Compact Commission in the U.S., as well as the annual meetings of the American Petroleum Institute, the American Institute of Mining Engineers, the American Assn. of Petroleum Geologists, etc.

• And they are tough when it comes to insisting on maximum performance by the oil industry. They regulate every phase of operations—from permits for each well to the policing of gas-oil ratios for maximum conservation of Venezuela's reserves. And they don't hesitate to issue a shut-down order for any well that fails to comply.

* * * *

As one oil man summed it up:

"We don't agree with everything they do, by any means. And we certainly don't like everything they do.

"But their decisions are made purely on technical merits. We argue like mad with them—all technicians argue and disagree.

"When you've got a good technical case, and can prove it, they'll approve your action. When you don't, they won't. And it doesn't do you any good to send a case of whisky at Christmas—your case'll get judged on its technical merits. Period."

THESE MEN HEAD THE DIVISIONS of the Bureau of Hydrocarbons. Left to right: Dr. Luis Plaz (conservation), Dr. Luis Cordero (production and fiscalization), and Dr. J. Abel Monsalve (concession mapping and topography).

Know what this is?

It is the new T-C Gauge Valve and Connector which permits the operator to gauge dozens of wells with a single pressure gauge. Only the Gauge Valve element is installed permanently on the Christmas tree, and a single master gauge is carried from well to well to obtain the pressure reading. Instead of buying one or two pressure gauges for each tree, you buy just one master gauge for an entire field!

In a nut shell, here are the advantages:

Only one gauge to buy.
No breakage.
No gauge repairs.
No exposure to elements.
No inaccurate pressure readings.

To obtain well pressure reading, insert master gauge with Connector in Gauge Valve and turn gauge 45 degrees. Gauge Valve opens automatically, exposing gauge to pressure. Remove gauge and Gauge Valve closes automatically.

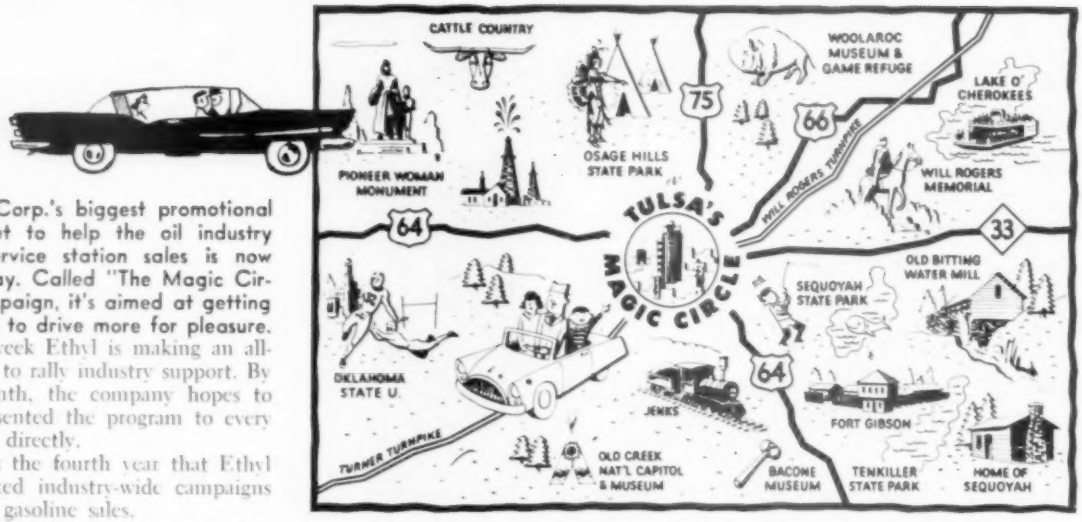
Ask any UNIBOLT man to demonstrate the Gauge Valve and Connector, or write:

THORNHILL-CRAVER CO.

P. O. Box 1184 Houston, Texas

DEPT/Marketing

1958: Big Pleasure-Driving Push



TULSA'S MAGIC CIRCLE typifies Ethyl's pitch to promote pleasure driving.

Ethyl Corp.'s biggest promotional effort yet to help the oil industry boost service station sales is now under way. Called "The Magic Circle" campaign, it's aimed at getting motorists to drive more for pleasure.

This week Ethyl is making an all-out push to rally industry support. By next month, the company hopes to have presented the program to every company directly.

This is the fourth year that Ethyl has sparked industry-wide campaigns to boost gasoline sales.

In 1955, Ethyl launched a "Drive-More" campaign (PW—Oct.21'55, p32). From this campaign, the industry picked up the slogan, "Drive more, it gets cheaper by the mile." This year Ethyl is dropping the "Drive-More" campaign to pour a bigger-than-ever advertising push into the Magic Circle program.

The campaign is centered around this emotional appeal to motorists: "There's a wonderful world around you, and your car is a wonderful way to see it. Explore your own Magic Circle."

Behind the Magic Circle promotion are studies, which, Ethyl says, indicate that about half of the nation's car-owning families "rarely or never" use their autos for leisure or pleasure driving.

Ethyl also had average annual mileage figures in mind when it decided to push leisure driving. Statistics show that average mileage per car over the past ten years has held about the same, in spite of big increases in leisure time, and in per-family income.

You can't get a motorist to drive his car to work more often than he needs to, or deliver his kids to school more than once a day. But you can entice him into pleasure-driving, say the company's market researchers.

The new campaign urges the motorist to draw his own Magic Circle—with the point of the compass on his own driveway. This imaginary line can circle whatever he is most curious to see. It can take him on a Sunday afternoon drive to a historical point nearby, on a weekend tour for recreation, or to an unexplored city hundreds of miles away.

Every four weeks in 1958, Ethyl will run full-color ads in Look, Life, Saturday Evening Post, and Sunset magazines—all pounding away at the Magic Circle theme.

The first series of these ads ran in January. The combined circulation of these magazines is 17-million, with an estimated readership of some 65-million.

Some of the ads are general, some with specific Magic Circles, showing places of interest in a given area. Each ad has color maps and pictures. A typical headline: "Adventure starts at the end of your driveway . . . discover your Magic Circle."

Most of the ads will be pegged to the pleasure angle. Some possible tie-in themes may center around the "see America first" idea, or play up the opportunities of learning and culture in auto-travel.

A Magic Circle Travel Clinic carries the theme further in a weekly news and feature service distributed to about 250 newspapers across the country.

Once a week a travel column is sent free of charge to selected local newspapers—on an exclusive basis of one paper per city.

The columns are aimed at promoting travel (especially by auto). They give travel notes, suggest accommodations in specific areas, and include a Magic Circle "city of the week," or "tour of the week." There is no mention of Ethyl or any products in the columns.

Initial newspaper response to the clinic has been so good, says Ethyl, that it may later be extended to magazines, radio, and television.

Most of the newspapers that have run the travel columns put them in Sunday feature sections. Many times, other newspapers pick up the column—hundreds of miles away from the "magic circle" at which the promotion was aimed, says Ethyl.

Ethyl is concentrating now on getting oil-company support of the magic circle idea—through company touring services and individual-company promotions centered on the same theme.

Ethyl is encouraging other companies to pick up the "Magic Circle" name and incorporate it into their own advertising and promotion.

There's also a good opportunity to push the theme in dealing with motorists who come to company touring bureaus.

Cities Service was one of the first to get behind the "Magic Circle" campaign. In its January dealer magazine, the company explained the program to dealers and urged them to join in the big push to get motorists to do more pleasure driving. Other companies are backing the program, too, says Ethyl.

The campaign will extend through 1958—maybe longer, if it's successful.

What's New / IN MARKETING

A credit card boom in 1958 seems inevitable, now that reimbursed business expenses have to be reported on personal income tax returns. Some marketers plan to push credit cards harder than ever, in a year when a sales boost is much needed.

Many large business firms, for the first time, are giving credit cards to their employees who turn in expense reports. Bills charged to a credit card and paid for directly by the company do not have to be reported as gross income by the employee.

The new emphasis on taxes and credit cards is a natural opening for pushing the advantages of credit cards. Skelly Oil Co., for example, is now printing in red across its credit invoices: "Using your Skelly credit card in 1958 can give you a complete record each month of gasoline taxes and expense for income tax purposes."

•

"Tougher days ahead" are going to force new yardsticks of efficiency and economy on all marketers of oil products, warns V. A. Bellman, director of domestic marketing for Socony Mobil Oil Co.

Bellman told the Iowa Independent Oil Jobbers Assn. last week that the jobber should judge his business by the "hardest standards he can find." An oil company will choose to wholesale its products through a distributor only if it's more economical than marketing the products directly, he said.

"We see some distributors struggling financially though they handle a 2-million-gal. volume per year, while others prosper handsomely on 600,000 gal. per year. We know of distributors with average gross profits of 3.4¢ per gal. who are having a hard time, while other men thrive on a gross profit of 2.4¢," Bellman said.

Bellman told the jobber group that a survey of medium-sized distributors showed a 400% variation in net profit per gallon on exactly the same gross profit margins.

"So we wonder," he observed, "will the less skillful and less efficient survive in this tough competitive market?"

•

A test using infrared rays has been developed to distinguish between virgin and reclaimed motor oils, according to an announcement by the Pennsylvania Grade Crude Oil Assn. The method was developed by the Armour Research Foundation of the Illinois Institute of Technology, under the sponsorship of the association.

"The effectiveness of the method is due to the fact that virgin oils are refined from a single crude or a small number of crudes," says an Armour Research official. "Reclaimed oils have a very diverse origin."

Heretofore, there has never been a scientific test that could detect any difference in the physical properties of the two.

Reason behind the test's development: Virgin-oil refiners want to see re-refiners required to label their oil as reclaimed or used (PW—Jul.26'57, p52).

One re-refiner's comment on the test: "As far as we're concerned, it couldn't prove anything that isn't already known. Everyone knows our oil is re-refined."

•

There seems to be no end to California's price-war woes. With prices in some areas sinking to a rock-bottom 8¢ or 9¢ per gal. (ex tax). Dealers continue to plead for government action.

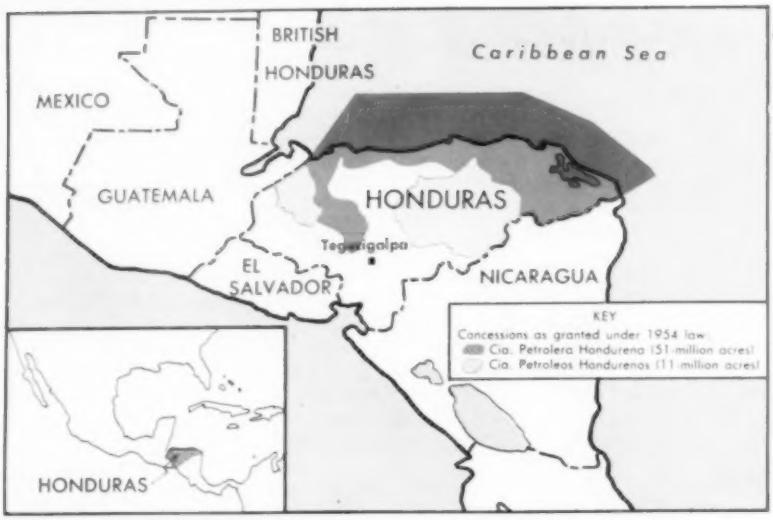
Dealers last week sent a telegram to Gov. Goodwin J. Knight, asking him to meet with them and work out a "plan whereby immediate cessation of hostilities may be effected."

The telegram also said that price wars were so bad that a large part of the state's 23,000 retail outlets face economic ruin.

Another telegram urged California's U.S. senators to back the bill, S.11.

Conoco Opens First Over-the-Highway Service Center

Continental Oil Co. opened America's first over-the-highway service station-restaurant unit last week. A cafeteria and dining area (right) extend 100 ft. through a rainbow-like arch over the Will Rogers Turnpike, near Vinita, Okla. Twin service stations on either side of the highway are joined by the huge arch (left) which is 52 ft. above the road at its highest point. The $2-million service center will have nearly 200 employees. More than 400 persons can be seated in the combined dining facilities—main dining room, two private dining rooms, cafeteria, and snack bar. These will be operated by Interstate Co., which manages the Glass House chain of restaurants on five turnpikes. Other oil companies are planning similar facilities to tackle the problem of providing convenient one-stop service on the growing web of interstate highways.



OIL RIGHTS already granted to two U.S.-backed companies may be cut back as . . .

Honduras Sets New Oil Terms

Two groups of U.S. independents may be facing cutbacks in their oil exploration holdings in Honduras as one result of the new petroleum law now in force.

The new law, unlike the 1954 oil law which it supersedes, places definite limits on the area in which a concessionaire may operate. It further limits operations in the costal, offshore, island, and border areas to companies whose stock is held at least 30% by Honduran nationals.

The two existing large grants in Honduras had been made to U.S. interests within the much looser framework of the old law.

The 1954 law covered only two types of grants: nonexclusive exploration rights for any area named in a contract; and exclusive production rights, for an unlimited number of 1,235-acre areas.

At this point, there is some question as to just where the two present U.S.-backed concessionaire companies stand, since the new law does not spell out how present holdings will be affected.

One of these companies is Cia. Petrolera Hondurena, with 51-million acres including both onshore and offshore areas (map).

The interests involved in this company or its holdings include John W. Mecom, Barnwell Offshore Co., of Louisiana, and International Geophysical Exploration Corp., a company headed by Houston oil man H. C. Cockburn.

Petrolera Hondurena had submitted applications last summer for conversion of 39 tracts into what were termed production concessions under the 1954 oil law. The new law cancels such pending applications, but states that preferential consideration will be given for new requests submitted before Apr. 12, for up to 247,000 acres.

The other concessionaire company is Petroleos Hondurenos. This firm was bought last year by a group including Oil & Gas Property Management Inc.; McRae Oil & Gas Corp.; Col. Harold D. Byrd, of Dallas; Georesearch Inc.; American Maracaibo Co.; Justiss-Mears Oil Co.; and Western Hemisphere, Inc.

This company had been granted rights on some 11-million acres, covering most of the departments of Santa Barbara and Olancho. It has been expected to select some 2-million acres of this but had not submitted applications for conversion of the acreage when the new law was promulgated in January.

The new law is substantially different from the 1954 law it supersedes, according to an analysis by the U.S. Bureau of Foreign Commerce:

- It specifically establishes surface fees and royalties, which the 1954 law did not provide for.
- It establishes a flat 50% of net profits for the government by adjusting the total of fees, royalties and income taxes. Under the old law, the government was to get 25% of net profits, plus income taxes amounting to a maximum of 30%.
- It requires a much larger cash deposit as guarantee of good intentions—$100,000 for a 988,000-acre exploration concession. The previous maximum was $5,000.
- Much stronger point is made of employing Honduran nationals—80% under the new law—and of establishing educational, medical, and living facilities for employees.

The 1954 law had no absolute requirements on these points, though the contracts actually made under it did require some facilities and 75% employment of Hondurans.

- Duty-free import of equipment is granted for the life of the concession, as against only ten years under the 1954 law.

Here are some other main points:

- Nonexclusive prospecting permits are granted for two years. The surface fee is $250 for an area up to 123,500 acres, plus 50¢ for each additional 2.47 acres.
- Exclusive exploration concessions run for six years, with two 2-year extensions permissible, provided at least 6,000 ft. of hole is drilled in each period.
- Size of exploration concessions depends on the area and the concessionaire.

Inland, one concessionaire may hold a maximum total of 988,000 acres, in one or more areas, none smaller than 12,350 acres.

Other areas will be granted only to Honduran nationals: 494,000 acres per concessionaire is the maximum within 25 mi. of the ocean or a neighboring country, and offshore within 7½ mi. of the coast. Beyond 7½ mi., the offshore maximum is 2.47-million acres. Island concessions are limited to 247,000 acres maximum.

- Exploration must be started within 180 days of a concession's effective date. Minimum annual investment obligations start with 25¢ per 2.47 acres in the second year, increasing to 75¢ in the ninth and tenth years.
- Production concessions, which the government is obligated to grant, run for 40 years. They may be extended another 20 years if application is made five years in advance.

They will be limited in size to a maximum 50% of the limits specified for exploration concessions.

Production concessions may be obtained directly, without conversion from exploration concessions.

- Production grants include

rights to produce, refine, transport, and sell oil and gas in Honduras or abroad.

• Refining and pipeline concessions may also be applied for independently of a specific production concession.

• Royalty is 12½%, but is reduced to 10½% for offshore production and for any production refined in Honduras.

• Surface fees and royalties must be paid even if there are losses, but the law provides that the Cabinet may grant a rebate of up to ⅓ of royalties for five years if necessary.

Exploration expenses may be deducted from net income in 20 installments during the production period. Also deductible, up to a maximum of 50% of net income, is a 25% depletion allowance.

The detailed "fussiness" of the new law has made some U.S. observers skeptical that it will achieve its stated purpose of encouraging more foreign oil capital investment.

Pipeline Guarantees Await Nasser's Nod

BEIRUT—When the excitement of new Arab unions—not one, but two—dies down in the Arab world, oil men here expect Iraq and Syria will give priority to the pipeline security guarantees demanded by Iraq.

Talks on a pipeline guarantee agreement between the two countries had been progressing on the diplomatic level and also within the Syrian cabinet in recent weeks.

They had hit a snag just before announcement of the United Arab Republic merging Egypt and Syria.

Official Iraqi sources have emphasized that their negotiations with Syria had not been broken off, as reports from Damascus indicated, and that they still awaited a decision from the Syrian cabinet.

Informed oil circles said agreement had been reached on all points of a pipeline security pact but one: arbitration.

Syrians insisted on the Arab League Council as arbitrator. Iraqi officials demanded that the International Court in The Hague should arbitrate any dispute.

Since the talks were started, both Syria and Iraq have become partners with other states, in rival federations. And there's a difference in their status now.

Syria is the junior partner with Egypt in the United Arab Republic, in which their foreign ministries and diplomatic services will merge into one Cairo-based department.

Iraq is the senior partner with Jordan in a Hashemite Arab Confederation, and will maintain its separate foreign service.

Both Iraqis and Syrians are said to be very anxious to get together on the security guarantees, since agreement is certain to increase the oil flow through the Iraq Petroleum Co. lines.

This will mean higher profits for both countries. Their current relations, incidentally, are described as very cordial.

The Iraqis, however, will no longer be able to discuss the guarantees directly with the Syrians.

Since the question involves an international engagement, Iraq will have to negotiate it with the United Arab Republic's federal government in Cairo, and not with the local government in Damascus.

Iraqis are aware that any international pipeline agreement now depends entirely on Nasser's good will.

The Iraqis are also aware that, geographically, psychologically, and economically, Nasser's Arab union is well situated to harm its pro-Western Hashemite rival federation.

Nasser is said to be well aware that pipeline security guarantees concern the West, and not Iraq alone. He is also said to be particularly anxious to give further proof of good behavior now, at the birth of the United Arab Republic.

One possibility seen by some observers is that the guarantee of the security of the oil flow through Syria might be in the form of a blanket guarantee by Nasser to the Arab League, or, better still, to the United Nations.

The question now is: Will Nasser accept such limitations to his newly consolidated opportunities to exert pressure, both on the West and on pro-Western Hashemite kingdoms?

Nigerian Cha-Cha to a Seismic Beat?

Socony Mobil is starting its first seismic work in northwest Nigeria, apparently to the great pleasure of local officials. Shown here is Ron Haskett, party chief for Seismograph Services Ltd., the contractor, explaining the functions of seismic equipment to Alaji Ahmadu, premier of the region, and Abba Habib, Minister of Trade & Industry.

Socony's Mobil Exploration (Nigeria) Ltd., recently renewed its exploration license on Sokoto province after two years of surface exploration over most of northern Nigeria.

What's New / AROUND THE WORLD

First Sahara Grants for U.S. Oil Firms

ALGERIA—The first Sahara oil rights ever granted to U.S. oil firms have gone to French-American groups headed by Phillips Petroleum and Cities Service.

The two groups are among seven applicants that won a total of 11,000 sq. mi. of Sahara acreage under a series of decrees published last week by the French government. British Petroleum Co., another newcomer to the Sahara, is also represented, along with Royal Dutch Shell.

A third French-American group, headed by Sinclair and Newmont Mining, is also due to get a permit within the next few weeks.

The Sinclair group was among the 11 bidders that filed generally overlapping requests last September for about half of a 23,000-sq. mi. area then being surrendered by the two French companies that found the Hassi Messaoud field.

Following is the acreage awarded to the seven groups, together with the minimum investment required for the five-year exploration permits:

- Phillips, with Copefa and Omnirex: 1,274 sq. mi., $1,960,000.
- Cities Service, with Prepa and Francarep: 2,471 sq. mi., $3,810,000.
- Cie. des Petroles d'Algerie (owned 65% by Shell): 1,043 sq. mi., $1,600,000.
- Creps (owned 35% by Shell): 1,043 sq. mi., $1,600,000.
- Soc. des Petroles de Valence (owned 50% by British Petroleum Co.): 1,776 sq. mi., $2,730,000.
- Soc. Nationale des Petroles d'Aquitaine (French government-controlled): 2,973 sq. mi., $4,580,000.
- Petrosarep (Nahmias Brothers, French independents): 463 sq. mi., $714,000.

•

Bolivia Sets Deal With Fish Engineering

BOLIVIA—The long-pending oil development contract for the 108,000-acre Madrejones tract is being awarded to Fish Engineering Co. in return for $17¾-million, largely in credits.

An official government announcement said also that Fish will pay 50% royalty on gross production on the tract, without any deductions. This, it was said, would be equivalent to 65% of net profits.

The tract lies in southeastern Bolivia, along the Argentine border, on a structure that is oil-producing in Argentina. Bids to develop it were called for almost a year ago by Yacimientos Petroliferos Fiscales Bolivianos, the government oil company within whose oil-producing zone it lies.

Announcing terms of the contract, Bolivia's president disclosed the following details on the credits to be extended by Fish:

- The sum of $4-million will be paid in cash within six months. Of this, $1.5-million is nonreimbursable. The other $2.5-million will be an interest-free advance on royalties.
- A $11½-million credit will be extended for materials to be purchased in the U.S.
- The remaining $12¾-million credit is for materials and equipment to be bought in Europe. It will be repayable in five years at 6½% interest annually.

YPFB will get a $5¾-million slice of the total. Of this, $4½-million will be in credits for equipment to develop its acreage, and $1¼-million in cash for a plant to produce high-octane fuels. Studies for this plant have already been started.

The remaining $12-million will be assigned by the government to mining, agricultural, and power development.

•

ALGERIA—The permanent 24-in. pipeline from the Hassi Messaoud field should be ready by late next year to carry large volumes of oil from the Sahara to the Mediterranean port of Bougie.

An October, 1959, target date for completion of the 310-mi. line was disclosed in Paris last week. Construction will start at the end of April.

Contract for the job was awarded recently to Groupement de'Entrepose (GREP), a new company set up by Soc. Parisienne pour l'Industrie Electrique, and Soc. Entrepose. The latter, an engineering company, is affiliated with two of France's leading pipe manufacturers, one of which will supply most of the pipe.

Plans for the pipeline were drawn up by Soc. Petroliere de Gerance (SOPEG), a company owned jointly by the two Hassi Messaoud concessionaires.

A minor part of the pipe for the line—not more than 10,000 tons, according to SOPEG—will be ordered from foreign companies.

U.S. companies will eventually be asked for material and credits to finance construction of the second big Sahara pipeline, from the Edjele field, near the Libyan border. Reports that negotiations are already under way have been denied by CREPS, the Shell-affiliated Edjele concessionaire.

Arrangements have to await the French government's decision on three possible routes for the line—one through Libya, one through Tunisia, the third across the Sahara to link with the Hassi Messaoud line. A government spokesman said the incidents between France and Tunisia will delay a final decision, but that the Tunisian route has not been eliminated.

•

VENEZUELA—Two new Lake Maracaibo producers, each testing well over 4,000 b/d, have been completed by the San Jacinto Petroleum Corp. group.

The wells, No. 2 and No. 3 Marlago, were brought in near the eastern lake shore on reserve tract NW V-575.

San Jacinto announced last week that the No. 2 well tested at the rate of 4,752 b/d of 25.9-gravity crude through ¾-in. choke. The No. 3 tested 4,272 b/d of 27-gravity oil.

The first producer on the tract was completed in December, testing 5,760 b/d of 27.6-gravity oil.

San Jacinto holds 30% interest and serves as operator on the 1,967-acre tract. Other participants are the T.U.L.M. group, Sharples Oil Corp., and American Petrofina.

•

PARAGUAY—The private Brazilian company that won Paraguay's fourth new oil grant is getting a 9.9-million-acre tract along the Pilcomayo River bordering Argentina (PW—Feb.21'58,p105).

The area extends from Fortin General Bruguez to Fortin Horqueta.

A 40-year contract was granted the company, Petroleo Guarani S.A., a subsidiary of Fiduciaria Fluminense, of Rio de Janeiro.

It apparently includes a six-year exploration period, calling for investment of $1-million annually in the first two years, and a payment (presumably rentals) of $120,000 annually for the next four years. After that, Paraguay is to get an 11% royalty, plus 30% in income taxes.

DEPT / Personals

AUGUSTUS C. LONG, board chairman and chief executive officer of The Texas Co., has been elected a director of Freeport Sulphur Co., New York. Texaco has granted Freeport sulphur rights at Gardner Island Bay, at the mouth of the Mississippi River.

A. C. Long

H. S. McCray

HOWARD S. McCRAY has been elected board chairman and chief executive officer, and **A. L. Hayes** is the new president, of Texas-Zinc Minerals Corp. The company, jointly owned by The Texas Co., and New Jersey Zinc Co., is engaged in uranium exploration and mining in several western states. McCray formerly managed Texaco's purchasing department; Hayes has been manager of Texas-Zinc since July, 1956. McCray's headquarters will be in New York City; Hayes' in Grand Junction, Colo.

E. C. BABSON, division manager for Union Oil Co. of California, was elected chairman of the Canadian Petroleum Assn., at its recent annual meeting in Calgary. Other incoming officers for 1958 include **Dr. W. C. Howells,** vice-president and manager of the producing department of McColl-Frontenac Oil Co., Ltd., first vice-chairman; and **J. B. Webb,** manager of the producing department and exploration manager of Canadian Oil Companies, Ltd., second vice-chairman.

HAROLD M. SMOTHERMAN has joined the oil department of the Mercantile National Bank, in Dallas, as a petroleum engineer. He has been associated with Cities Service Oil Co., Bartlesville, Okla.

JOHN WACKER, of Dallas, an assistant vice-president of Magnolia Petroleum Co., has been named North Central Texas area chairman for the Texas Oil Information Committee. He will direct OIC activities through local groups in a 14-county area.

WILLIAM V. BYRD has been promoted to assistant vice-president of Renwar Oil Corp., Corpus Christi. **H. W. (Herb) Campbell** succeeds him as manager of land and property acquisitions.

JAMES D. BUSHNELL and **DANIEL HARTLEY** have been named to head the fuels and treating, and the mechanical engineering development sections, respectively, of Esso Research & Engineering Co., Linden, N. J. Both men have been with Esso Research since 1947, Bushnell working on lube oil and wax processing; Hartley on designing refinery equipment.

TOM GAINES transfers to Bogota as assistant manager of Texas Petroleum Co.'s Colombian producing division, and **B. M. WOOFTER** succeeds him as chief petroleum engineer of Texaco Exploration Co., Calgary. Woofter was formerly assistant chief petroleum engineer there. **Fielder A. Jones** is moving to Caracas as assistant manager of pipelines for Texpet's Venezuelan producing division. He is in charge of pipeline operations in both Venezuela and Colombia. Both Texpet and Texaco Exploration are wholly-owned subsidiaries of The Texas Co.

E. W. KILGREN, chief plant engineer, production department, Pan American Petroleum Corp., Tulsa, has been named vice-chairman of the technical committee of the Natural Gasoline Assn. of America.

M. C. (Barney) BARNARD, Richfield Oil Corp., is 1958 president of the Pacific Oil Scouts & Landmen's Assn., Bakersfield, Calif. Other incoming officers include **Bill Castle,** Richfield, vice-president; **Dale Rodman,** Ohio Oil Co., secretary-treasurer; and **Bill Brandon,** Richfield, editor for the exploratory drilling report.

J. H. Perrine

J. L. Olsen

JOHN L. OLSEN has been appointed to the newly created post of assistant director, and **J. HAROLD PERRINE** becomes administrative manager, of Sun Oil Co.'s research, patent, and engineering departments, in Philadelphia. Olsen was formerly an assistant director of the research and development department; Perrine managed the department's administrative division. **Richard Fleming,** former section chief of the department's process development division at the Marcus Hook (Pa.) refinery, transfers to Olsen's new group. **William M. Schmitt,** assistant general manager of the motor products department, moves up to general manager of advertising for Sun. Two other marketing appointments include **William B. Daub** as advertising manager for industrial products, and **Palmer McKay** as advertising manager for motor products. Both previously had been assistant advertising managers.

J. R. BRADY has joined Northern Natural Gas Co., Omaha, Neb., as reserves engineer in the gas supply department's reserves and availability section. He was formerly associated with American Louisiana Pipe Line Co., and Michigan Consolidated Gas Co., both in Detroit.

J. R. Brady

G. H. Priggen, Jr.

GEORGE H. PRIGGEN, JR., moves up to the newly created post of assistant division manager for the southern zone of Socony Mobil Oil Co.'s White Eagle division. Priggen, who has been manager of automotive sales for the division in Detroit, will make his headquarters in Kansas City, Mo.

BERT C. ASTRUP will be general chairman of the Oil Information Committee's district operating committee. The committee is made up of chairmen, who will direct the oil industry's public relations program throughout metropolitan New York, New Jersey, and Upstate New York during the year. Astrup, manager of Shell Oil Co.'s New York sales division, is going into his second term as chairman.

GEORGE A. GUMBS, JR., has been elected a vice-president of Esso Shipping Co., marine subsidiary of Standard Oil Co. (N. J.), in New York. Gumbs is a director and manager of the company's traffic department.

DENNIS L. NEWBERRY is manager of gas sales, and **GLOVER H. CARY, JR.,** industrial representative for Texas Gas Transmission Corp., Owensboro, Ky. Both members of the sales and customer relations staff, Newberry and Cary will be responsible for coordinating natural gas sales development, and for efforts toward the industrial development and growth of the area served by TGT.

P. CRAIG LIVESAY has become manager of the Sugar Creek (Mo.) refinery, and **Harry G. Schnetzler** succeeds him as manager of the Neodesha (Kan.) refinery of Standard Oil Co. (Ind.) Livesay succeeds **Harold R. Boehmer,** who is retiring after serving the company more than 42 years. Schnetzler was formerly assistant refinery manager at Neodesha. **L. James Schmauch** and **Helen Sellei Beretvas** have been appointed senior research scientists, at Whiting, Ind. Schmauch, most recently working in the field of gas chromatog-

raphy, will be in the analytical research division. Beretvas, with Soind since 1947, will work in the lubricants division.

RALPH P. PADEN and **WINFIELD S. SCHMIDT** have been appointed managers of the technical and operations sections, respectively, of Atlantic Pipe Line Co.'s crude oil division, in Dallas. Both were formerly assistant managers—Paden of the Dallas crude pipeline division, and Schmidt of the Philadelphia products pipeline division.

R. W. THOMPSON, automotive superintendent of Union Oil Co.'s southern division since 1949, has been promoted to manager of the automotive department. He succeeds **J. W. Sinclair,** who has retired after serving the company over 23 years. **W. Kenneth Davidson** has joined Union as merchandising coordinator. He was formerly western division manager of Coast Fisheries, a division of Quaker Oats Co. Both Thompson and Davidson will make their headquarters in Los Angeles.

J. Henderson

E. H. W. Platt

J. HENDERSON and **E. H. W. PLATT** have been appointed chief engineer superintendents, of fleet maintenance and new construction, respectively, for BP Tanker Co., British Petroleum Co.'s shipping organization, with headquarters in London. Since 1943, Henderson has served as an engineer superintendent both overseas and in the United Kingdom. Platt joined the company's head office in February, 1957, following his retirement from the Royal Navy.

R. C. (Dick) WORKING has transferred to Bankline Oil Co.'s marketing division, in Los Angeles. In his new position, he will be concerned with the sales of fuel oil, coke, and other specialty products. Working has been with Bankline since 1947 as assistant purchasing agent.

H. W. PATTISON has been elected executive vice-president of Sohio Pipe Line Co., St. Louis. Both **W. F. Gannon** and **J. W. Foster** have been promoted to engineers in the St. Louis engineering section. Gannon most recently has been a technical assistant. Foster has been a junior engineer.

GREAT BASINS PETROLEUM CO. has opened an exploration office in Bakersfield, Calif. Staffing the office are **M. de Laveaga,** former consulting geologist; **Charles Manlove,** formerly area geologist for Great Basins at Amarillo, Tex.; **Quentin Query,** formerly area geologist for the company at Denver; **Floyd Tincher,** formerly with Union Oil Co. of California, who will serve as area scout; and **Gene Nelson,** formerly with Ferguson & Bosworth, will be the draftsman.

F. E. GILES has been appointed superintendent of Kerr-McGee Oil Industries' newly established Sapulpa (Okla.) district. The move follows Kermac's acquisition of the Oklahoma gathering system of Gulf Oil Corp. and Texas Pipe Line Co.

D. P. JOHNSON will head the newly opened division exploration office in Oklahoma City for Paso-Tex Petroleum Co. Working with Johnson, who is exploration superintendent and division manager, will be **L. B. Gatewood,** landman; **K. R. Gilleland,** geophysicist; and **D. C. Cedarleaf,** staff geologist.

LAWRENCE N. OTT, Tidewater Oil Co., is the new president of Southwest Louisiana Geophysical Society. Other officers include **Neal Clayton** and **G. E. Tilley,** Sohio Petroleum Co., first and second vice-presidents; **James M. Moore,** Skelly Oil Co., secretary; **James M. Wheat,** Sinclair Oil & Gas Co., treasurer; and **Edmund L. Ricketts,** Forest Oil Corp., district representative. The society and all the officers are based in Lafayette, La.

GLEN V. MULCAHY, senior geologist with Sohio Petroleum Co., is transferring from Houston to Lafayette, La. **Calvin C. Chimene,** geologist, is moving to Houston from offices in Lafayette.

PERRY E. BARNHART has taken over the duties of geologist for Cities Service Oil Co.'s Lafayette (La.) district, and **Bill James** succeeds him as district geologist at Midland, Tex. Barnhart succeeds **B. C. McCasland,** who has accepted an assignment with a Cities Service foreign subsidiary. James has been staff geologist at Midland since 1956.

JERRY KNIGHT and **ED HATTON,** independent geologists, have opened offices in Amarillo, Tex. Both are former geologists for Phillips Petroleum Co. Knight more recently was associated with D. D. Feldman; Hatton with Nabob Production Co.

C. E. THORNTON, formerly vice-president of Reading & Bates Offshore Drilling Co., Tulsa, has been promoted to executive vice-president. New Orleans general manager **George L. Temple** assumes the additional duties of vice-president. **Frank J. Garnett** moves from the Calgary office of Reading & Bates Drilling Co., Ltd., to New Orleans as assistant to Temple. **N. Glen Watson** transfers from the Oklahoma City office of Reading & Bates, Inc., to the Calgary office as assistant to the vice-president and general manager of the Canadian subsidiary.

FRASER M. BURBACK, Mobil Producing Co., has been elected chairman of AIME's Billings (Mont.) petroleum section. Other newly appointed officers include **Nicholas J. Matthews,** Shell Oil Co., and **Charles Evans,** Schlumberger Well Surveying Corp., first and second vice-chairmen; and **D. M. Madden,** Mobil Producing, secretary-treasurer. **R. L. Dickson,** Dowell Inc., and **R. L. Brown,** Yapuncich, Sanderson & Brown, are new directors, and former chairman **E. J. Whitaker** continues as a director.

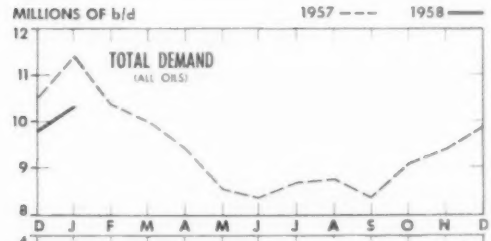
ROLAND A. WHEALY has been appointed refinery technologist for the Interior Dept.'s Office of Oil & Gas, Washington. He was formerly associated with Ashland Oil & Refining Co.

SUN OIL CO. has moved the Latin American division of its foreign operations department from Dallas to Caracas, Venezuela. Involved in the move are **B. E. Warren,** division manager; **P. W. McFarland,** chief geologist; **Lee C. Smith,** assistant chief geologist; **John Waller,** geophysicist; and members of their staffs.

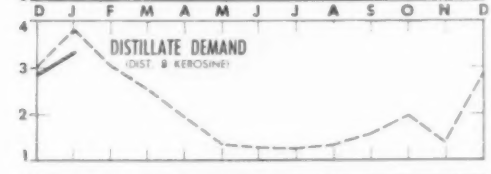
JACK U. TEAGUE, (second from left), president of the American Assn. of Oilwell Drilling Contractors, presents a bronze plaque to **D. F. Garrett** (right), Permian Basin chapter chairman, honoring this AAODC chapter for its contributions to the School of Drilling Technology, at Odessa, Tex. Looking on are **Brad Mills** (left), AAODC executive vice-president, and **Ed Durrett,** former chairman of the Permian Basin chapter.

PETROLEUM WEEK'S

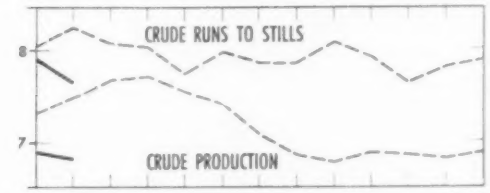
Fingertip Figures



TOTAL DEMAND
Latest week average 10.343
Year ago 10.407

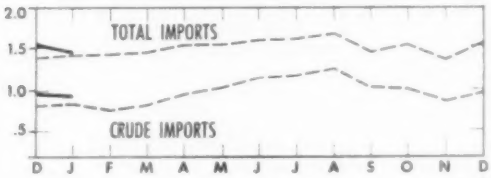


DISTILLATE DEMAND
Latest 4-week average 3.449
Year ago 3.087



RUNS TO STILLS
Latest week 7.506
Previous week 7.520
Year ago 7.795

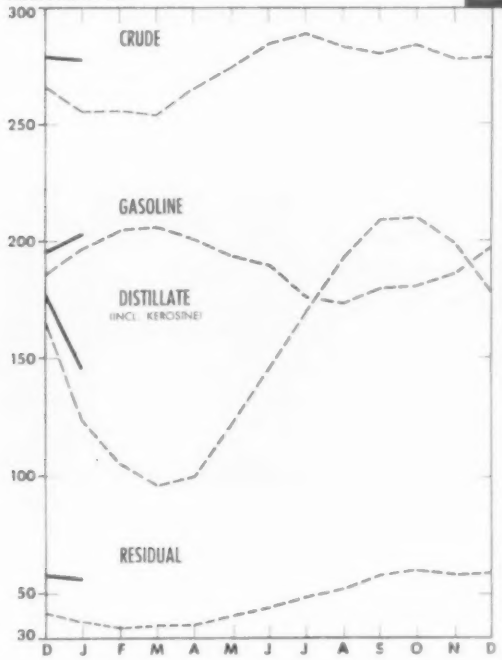
CRUDE PRODUCTION
Latest week 6.809
Previous week 6.852
Year ago 7.567



TOTAL IMPORTS
Latest week 1.091
Previous week 1.898
Year ago 1.437

CRUDE IMPORTS
Latest week .558
Previous week 1.217
Year ago .832

STOCKS



CRUDE STOCKS
Week-ended 2-15 284.8
Previous week 279.0
Year ago 250.5

GASOLINE
Latest week 213.7
Previous week 210.6
Year ago 204.1

DISTILLATES
Latest week 115.3
Previous week 128.9
Year ago 109.6

RESIDUAL
Latest week 55.4
Previous week 57.1
Year ago 35.8

Domestic producers and the government—now primarily concerned about future crude imports—may also need to take a look at rising product imports.

January's product imports were up 3% over a year ago, and indications are February product imports will also exceed a year ago.

Product imports during the remainder of the first half, at least, may run well over last year. That's the conclusion that can be drawn from the import data submitted to the Texas Railroad Commission last week.

Not all importers report to the commission. But based on the figures supplied it for the period through June, total product imports now planned will be at least as high as last year. And actual imports usually run well above the early estimates.

One company—Gulf Oil Corp.—plans to import substantial quantities of unfinished gasoline from Kuwait and finished gasoline from Venezuela during the spring.

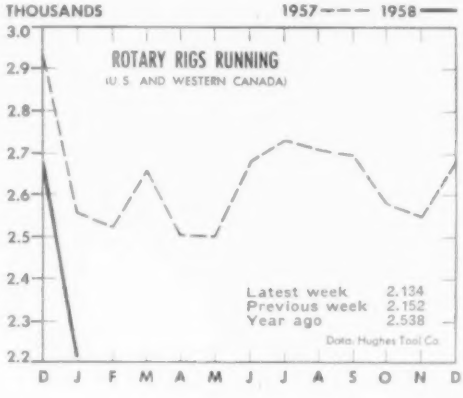
Gulf informed the commission its finished and unfinished gasoline imports would run 8,000 b/d in March, 17,000 b/d in April, 30,000 b/d in May, and 27,000 b/d in June.

Gasoline imports of 30,000 b/d, based on current refinery yields, would be equal to over 50,000 b/d of crude.

* * *

Last week's blizzard weather was a much needed shot in the arm for oil demand. Total demand for the week averaged 10,907,000 b/d, highest since Feb. 8, 1957.

The greatly reduced crude production and a drop-off in imports from the previous week's all-time record, resulted in total new supply for the week declining to 8,704,000 b/d, the lowest since Mar. 30, 1956.



The Market Trend

Lower Temperatures Bring Lower Prices

It has almost seemed recently that the lower the temperatures fell, the lower went the prices for fuel oils. Admittedly, the cold weather hit the nation late in the season. Also, contract liftings had lagged seriously: all a customer had to do to get oil was to ask for it.

When the temperature in the Chicago area got down to 17 below, two suppliers cut their No. 6 transport prices 0.3¢, to 7.15¢. As it happened, some of the companies that met the reduction ran out of oil temporarily. This was because many barges were caught in the ice, and some took as much as eight days to move from Wood River to Chicago.

Down in the Mid-Continent, heavy fuel prices slipped from $1.25 to $1.00 a bbl. Spot lots could be found as low as 85¢. One sizeable sale was concluded for rail shipment to the Gulf at $1.86, laid down at deepwater. (Gulf cargo postings start at $2.25.)

In Ohio, Standard Oil Co. (Ohio) reduced its distillate prices 0.5¢ a gal. in the northern half of the state. Sam H. Elliot, Sohio vice-president, said the cut was due to "competitive conditions arising out of the pressure of abundant supply of these products."

At New York harbor, all spot sales place at "off" prices. The discounts were not quite so severe as formerly; net barge prices worked up from about 9.1¢ to about 9.4¢ for No. 2 fuel. These prices compared with the posted 9.85¢ (from which everybody was allowing at least 0.2¢ off).

The basic urge among refiners and terminal operators was to erase fuel oil stocks while the cold weather lasted. This explains the almost total lack of spot cargo dealings at the Gulf. One cargo was arranged for north-of-Hatteras delivery, east of New York, at 9¢, delivered (0.35¢ off contract).

The cold weather served one important purpose: it saved the industry from enormous inventory losses. P&L statements still will look pretty awful for the first quarter. But even if prices have fallen, so have inventories. And if inventories get down, the prices (no matter how low) will be on a firm base to rise again in another heating season.

An Import Struggle?

There's more than meets the eye in the Pontiac-Wilshire deal (PW—Feb. 14'58,p8). Wilshire had been importing crude from two suppliers, each of whom is interested in getting a marketing foothold on the West Coast.

When the Wilshire sale was closed, one of the foreign crude suppliers got notice that the quantities needed would be cut sharply—to the minimum level specified in the contract, 6,600 b/d. Presumably the other supplier will pick up the balance.

Lots Of No. 6:

East Coast heavy fuel prices fell 10¢ a bbl. this week following cuts by Esso Standard and other suppliers. West Coast spot cargoes could be found as low as $1.50. Caribbean prices were off 10¢ to $2.25.

Southeast Kerosine:

The only tight-supply area in the U.S. last week was the Southeast, where kerosine stocks were whittled down sharply by unusually cold weather. But here, also, prices fell as much as 1.9¢ a gal.

The Market Place

AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All prices as of February 24

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

Western Hemisphere

U. S. Gulf Coast, cargoes
- Gasoline, 98 oct prem. 12.25-14
- Gasoline, 92 oct reg. 10.5-12.375
- **Kerosine 8.875↑-10.5**
- Heating oil, No. 2. 8.5-10.25
- Gas oil, 48-52 d.i. 8.625-10.5
- Fuel oil, bunker "C". $2.25-2.45

Caribbean, cargoes
- Avgas, Grade 100/130. 16.5
- Gasoline, 93 oct research prem. 10.75
- Gasoline, 87 oct research reg. 9.875
- Gasoline, 79 oct research. 9.125
- Gasoline, 70-72 oct motor method. 9
- Kerosine. 9
- Heating oil, No. 2. 8.5
- Gas oil, 48-52 d.i. 8.625
- **Fuel oil, bunker "C" $2.25↓-2.35**

New York Harbor, barges
- Kerosine. 10.35
- Heating oil, No. 2. 9.65-9.85
- Fuel oil, No. 6. $2.75

Okla-Group 3, northern shpt, bulk
- Gasoline, 89 oct reg. 11.5-12.25
- Kerosine. 9.75-10.25
- Heating oil, No. 2. 8.75-9.125
- **Fuel oil, No. 6 $1.00↓-1.40**

Chicago, bulk
- Gasoline, 91 oct reg. 12-12.8
- Heating oil, No. 2. 9.5-10.65
- **Fuel oil, No. 6 high sulfur 7.15-7.25↓**

Los Angeles, rack
- **Gasoline, 88 oct reg 11.9↓-13.6**
- Diesel fuel, PS 200. 10-11.25
- Light fuel, PS 300. $3.25-3.65
- Heavy fuel, PS 400. $2.70-3.05

Natural Gasoline, Grade 26-70
- FOB Group 3. 4.5
- FOB Breckenridge, Tex. 4

LP-Gas
- Propane, Oklahoma (Group 3). 5

Penna Lubes
- Bright stock, 25 p.t. 26-27
- 200 vis. neutral, 25 p.t. 24-25

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent, 95 v.i. 24.5-26.5
- Neutral, solvent, 200-210 vis. 20.25-22.25

Gulf Coast Lubes
- Bright stock, solvent, 95 v.i. 25.5-26.5
- Neutral, solvent, 200 vis. 22-23

Eastern Hemisphere

Singapore (Pulau Bukom), cargoes
- Avgas, grade 100/130. 17.5
- Gasoline, 79 oct research. 10.375
- Kerosine. 10.375
- Gas oil, 48 d. i. minimum. 10.375

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, 36.0-36.9. 2.83-3.07
- North Dakota, 36.0-36.9. 3.07
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9. 3.50
  - Gulf Coast, Upper & Lower, 26.0-26.9. 3.07-3.22
  - West Texas, sweet, 36.0-36.9. 3.00-3.07
  - West Texas, N. M., inter., 36.0-36.9. 3.00
  - West Texas, N. M., sour, 32.0-32.9. 2.86
  - East Texas, flat. 3.25
  - Mirando, 28.0-28.9. 3.31
- Illinois Basin, flat. 3.00-3.15
- Pennsylvania Grade, Bradford dist. flat. 4.65
- California, Signal Hill, 21.0-21.9. 2.93†
- North Louisiana-Arkansas, 36.0-36.9. 2.92-3.02
- Wyoming sweet, 36.0-36.9. 3.00
- Wyoming sour, 32.0-32.9. 2.71

Canada (flat prices, at the well)
- Acheson-Stony Plain (Alta.). 2.68
- Leduc-Woodbend (Alta.). 2.74
- Redwater (Alta.). 2.63
- Daly (Man.). 2.46
- Smiley (Sask.). 2.40

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 48.0-48.9, Tucupido. 3.75
- San Joaquin, 41.0-41.9, Puerto la Cruz. 3.34
- Oficina, 35.0-35.9, Puerto la Cruz. 3.05
- Tia Juana, Medium, 26.0-26.9, Amuay. 2.55
- Bachaquero, flat, Amuay, Las Piedras. 2.03-2.23
- Tarra, 38.0-38.9, San Lorenzo. 3.08
- Lagunillas Heavy, flat, Amuay, Cardon. 2.25-2.38

†Differential per deg. of grav. varies.

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabia, 34.0-34.9, Ras Tanura. 2.08
- Safaniya, 27.0-27.9, Ras Tanura. 1.79
- Iran, 34.0-34.9, Bandar Mashur. 2.04
- Iran, 34.0-34.9, Abadan. 1.99
- Iraq, 35.0-35.9, Fao. 1.98
- Kuwait, 31.0-31.9, Mina-al-Ahmadi. 1.85
- Qatar, 41.0-41.9, Umm Said. 2.23

Middle East, Eastern Mediterranean
- **Arabian, 36.0-36.9, Sidon 2.49↓**
- **Iraq, 36.0-36.9, Tripoli, Banias 2.49↓**

Far East, Cargoes, FOB Lutong, Sarawak
- Seria Light, 37-38. 2.75

KEY TANKER RATES

(Last paid, per long ton, single voyage)

U.S. Gulf-New York, clean (USMC —6¼%) $2.67↑
U.S. Gulf-New York, dirty (USMC —30%) $2.00
NWI-USNH, dirty (USMC —55%) $1.22
NWI-UK/Cont., dirty (Scale —35%) 21/2*
Persian Gulf-UK/Cont., dirty (Scale —50%) 30/2*
Persian Gulf-USNH, dirty (USMC —70%) $3.81

**Sterling.*

ADVERTISERS IN THIS ISSUE

Baker Oil Tools, Inc.	22
Bovaird Supply Co.	4
B-J Service, Inc.	19
Dowell, Inc.	Cover 2
Dualmatic Products Co.	36
Ethyl Corp.	1
Halliburton Oil Well Cementing Co.	Cover 3
Hewitt-Robins	39
Hudson Engineering Co.	30
Hughes Tool Co.	Cover 4
Lehman Bros.	26
Lone Star Steel Co.	7
Lucey Export Corp.	3
Natural Gasoline Supply Mens Assn.	35
Petro-Chem. Develop. Co., Inc.	2
Reed Roller Bit Co.	28-29
Standard Oil Co. (N. J.)	10
Standard-Vacuum Oil Co.	27
Thornhill Craver Co.	41
Universal Oil Products Co.	8-9
Worth Well Surveys	24
PROFESSIONAL SERVICES	53
CLASSIFIED ADVERTISING F. J. Eberle, Business Mgr.	
EMPLOYMENT OPPORTUNITIES	53
BUSINESS OPPORTUNITIES	53

PETROLEUM WEEK REPRESENTATIVES

Atlanta 3 — Douglas C. Billian
1301 Rhodes-Haverty Bldg.
Jackson 3-6951

Boston 6 — Edward A. Callahan, Jr.
350 Park Square Bldg.
Hubbard 2-7160

Chicago 11 — W. F. Holbrook
520 North Michigan Avenue
Mohawk 4-5800

Cleveland 15 — J. E. MacArthur
1164 Illuminating Bldg.
55 Public Square
Superior 1-7000

Denver 2 — J. W. Patten
Mile High Center, 1740 Broadway
Alpine 5-2981

Houston 25 — D. O. Hanson
724 Prudential Bldg.
Jackson 6-1281

Los Angeles 17 — Peter S. Carberry
1125 W. Sixth St.
Madison 6-9351

New York 36 — Edward A. Callahan, Jr.
Donald R. Thompson
500 Fifth Ave.
Oxford 5-5959

Philadelphia 3 — W. A. Potter
6 Penn Center Plaza
Rittenhouse 6-0670

San Francisco 4 — William C. Woolston
68 Post Street
Douglas 2-4600

Tulsa 19 — J. A. Hartley
909 Enterprise Bldg.
522 South Boston
Gibson 7-5594

England, London E. C. 4 — Herbert Lagler
McGraw-Hill Co., Ltd.
95 Farrington St.

DEPT/Service & Equipment Companies

ROBERT G. LeTOURNEAU, (left), president of R. G. LeTourneau, Inc., Longview, Tex., receives the "Beaver Award" from Beavers president **George H. Atkinson.** LeTourneau has been a leader in the design and development of heavy equipment for the construction industry for over 30 years. The presentation, made at the Beavers third annual awards dinner in Los Angeles recently, is witnessed by **John M. Sawyer,** (center), chairman of the program committee and president of Macco Corp., Paramount, Calif.

J. M. FASOLI is to be manager of services for American Cyanamid Co.'s organic chemicals division. With the company since 1946, he has been legal counsel for the organic chemical divisions and the Bound Brook (N. J.) plant, where he will continue to make his headquarters.

RUSSELL G. DRESSLER has joined C. W. Nofsinger Co., Kansas City, Mo., as Gulf Coast technical and sales representative. Dressler, who has been associated with the chemical, petrochemical, coal and lignite processing fields, will make his headquarters in San Antonio, Tex.

T. H. Pike, Jr. **J. E. Chumbley**

THOMAS H. PIKE, JR., and **JOHN E. CHUMBLEY** have been appointed vice-presidents of Tube Turns, a division of National Cylinder Gas Co., Chicago. **F. E. MacDonald,** assistant controller since 1945, moves up to controller. Pike, merchandising manager since 1955, will be in charge of planning. Chumbley, assistant general sales manager since 1953, will handle general sales operations for the division. MacDonald continues as assistant secretary and assistant treasurer of the parent National Cylinder Gas.

RALPH G. BATES, formerly development engineer for Kaiser Engineers, a division of Henry J. Kaiser Co., moves up to the post of general sales manager, in Oakland, Calif.

CHARLES F. RIKER has been named by Johnston Testers, Inc. of Houston, as sales engineer. He joined the company last December after serving in Brazil as equipment engineer for Petrobras, the government's oil agency.

RAY LOESBY has been appointed Alco Products, Inc., agent in the Northwest for Alcotwin finned-tube heat exchangers and related products. Loesby heads the Unit Process Co., of Kirkland, Wash.

PARKER S. DUNN, vice-president of manufacturing for American Potash & Chemical Corp., has been elected a director of the company, in Los Angeles.

B. WENDELL PHILLIPS and **WILLIAM B. ABBOTT** have been elected managing partners of Langham, Langston & Burnett, Houston insurance counselors. Other appointments include **J. E. Pike** as associate and director of the marine and Lloyd's departments. For the past ten years, Pike has been head of the marine department.

DR. SYDNEY STEELE has become director of public relations for Atlas Powder Co., Wilmington, Del. He has been acting director of the department since last September.

MALCOLM B. ROACH has been appointed general sales manager, and **Robert H. Davis, Jr.,** personnel director for Otis Engineering Corp., Dallas oil well tool manufacturing and service firm. Roach was formerly president of Dewey Supply Co., Tulsa. Davis was labor relations analyst for Convair Aircraft in Ft. Worth.

HAROLD K. HERR has been named president of Rayflex Explorations, Inc., Latin American subsidiary of Rayflex Exploration Co., Dallas geophysical firm. He has been with Rayflex for seven years, the last four years as Latin American operations supervisor. Herr will divide his time between Dallas and Guatemala City, where the firm has a sub-office.

O. L. LEWIS has joined Ehrhart & Associates, Inc., Los Angeles construction and engineering firm. He will be in charge of the engineering department in both the firm's Los Angeles and San Francisco offices. Formerly with C. F. Braun & Co., he has approximately 20 years of engineering design and construction experience on process units for the oil and chemical industries.

EDWARD J. HANLEY, president of Allegheny Ludlum Steel Corp., has been elected a director of Westinghouse Air Brake Co., of Pittsburgh.

DAVID C. GUINN has joined Shaffer Tool Works, Inc., Houston, as division engineer in the Mid-Continent Gulf Coast area. Since 1955, he has been with Republic Natural Gas Co.'s Louisiana division, working on exploration and development drilling operations.

D. C. Guinn

W. H. Shenkle

WILLIAM H. SHENKLE will take over as general manager of Rockwell Mfg. Co.'s instrument division, Tulsa. He was formerly chief engineer of the division.

A. B. AYCOCK has been named plant superintendent for Southern Pipe Coating Co., in Doraville, near Atlanta, Ga. Since 1936, he has been superintendent of production at Mayes Bros., Inc., Houston.

DWIGHT MILLEGAN has joined Product Development Co. as sales engineer in Houston. He was formerly with Pacific Lumber Co., in San Francisco and Houston.

WILLIAM SHEFFELD succeeds **George L. Abbott** as treasurer of Garlock Packing Co., Palmyra, N. Y. Abbott is now board chairman of the company. Sheffeld is presently a vice-president.

JONES & LAUGHLIN SUPPLY DIVISION has been appointed exclusive distributor of replacement parts for Gardner-Denver mud pumps in Kansas.

ERNEST E. COLLINSWORTH moves from Alice to McAllen, Tex., as assistant to the Alice district manager of Applied Power Equipment & Mfg. Co. The company has opened the new McAllen facility to render increased service to users of Allis-Chalmers and Buda engines.

WALTER D. KRAMER has become general manager of Timken Roller Bearing Co.'s Columbus (Ohio) plant succeeding **Leroy D. Gable**, who has retired. Other new assignments at the Columbus plant include **Howard Starn**, succeeding Kramer as factory manager; **Fred Albright** replacing Starn as superintendent of the railroad bearing plant; and **Marion J. Kowalski** succeeding Albright as assistant chief engineer. Kowalski was formerly plant engineer.

CHARLES L. LUNSFORD, Dowell Inc., Tulsa, has qualified with the U. S. Patent Office as a patent agent. His primary responsibility lies in representing his firm in its patent work as liaison between Dowell and the patent department of its parent, the Dow Chemical Co. Lunsford can now handle patent applications direct with the U. S. Patent Office. **J. P. Moran** has been transferred by Dowell to Tulsa to be reservoir engineer in the company's chemical research laboratory. He was formerly district engineer at Houston.

VINCENT T. NOLAN has been made purchasing agent of Carpenter Steel Co.'s alloy tube division, in Union, N. J. Nolan, former chief accountant, has been with the company for the past 15 years.

ANDREW L. POLICH, INC., has been appointed sales representative in Oregon, Washington, Montana, and Idaho, for Electro-Span digital supervisory control system manufactured by the Pacific Division of Bendix Aviation Corp. Working out of the Portland (Ore.) office of Polich is **Andrew L. Polich** and **Helmer J. Sundt. Lloyd W. Edwards** heads the Seattle (Wash.) office of the company.

NOMADS, Tulsa chapter, gathered recently for the first business meeting presided over by newly elected officers. Officers present included (l. to r.), **Harry Horton**, Tretolite Co., treasurer; **W. O. Timberlake**, Lucey Products Corp., assistant secretary; **John Pearce**, Superior Iron & Supply Co.; president; **Vern W. Bailey**, Bethlehem Supply Co., sergeant-at-arms; **E. L. Thomas**, independent operator, executive secretary; **Floyd Cummings**, Axelson Mfg. Co., assistant treasurer; and **Guy Williams**, Dowell Inc., past president and senior regent.

CLASSIFIED

PETROLEUM ENGINEERS

Foreign and Domestic

Several career positions open for graduate petroleum, chemical electrical or mechanical engineers with oil producing operations experience.

PRODUCTION & RESERVOIR:

Petroleum production development or reservoir engineering experience; to collect, analyze and evaluate data pertaining to the characteristics and performance of oil reservoirs; to study reservoirs in order to determine the most efficient production methods and secure optimum production. Also basic reservoir research concerned with evaluation of oil production reservoirs. Assignments in Saudi Arabia and New York.

DRILLING

5 years in petroleum engineering work with 2 years in the drilling phase. To furnish engineering advice and assistance in the development of proven potential petroleum producing fields and improvements of the efficiency of drilling operations. Assignments in Saudi Arabia.

Excellent community facilities in Arabia. Salaries commensurate with background and experience plus all inclusive benefit plans.

Write giving full particulars regarding personal history and work experience. Please include telephone number.

Recruiting Supervisor, Box 269
ARABIAN AMERICAN OIL COMPANY
505 PARK AVENUE
NEW YORK 22, NEW YORK

OIL LEASES IN BOOMING

4-Corners Area. Some wells estimated over 2,000 barrels of oil per day. Major oil companies pay highest prices for wildcat oil leases. Fortunes being made. Let us explain our system of hedging on speculation in oil leases. Options as low as $50.00 and $10.00 per month. Send for Free Maps & Information. Atlas Oil Survey, Dept. P. W., Colorado Building, Denver 2, Colorado.

BUSINESS OPPORTUNITY

Petroleum Distributorship for sale at reasonable price in South Mississippi. Small gallonage at present, but has large potential. Major company owns bulk plant. BO-7375, Petroleum Week, Class. Adv. Div., P. O. Box 12, N. Y. 36, N. Y.

PROFESSIONAL SERVICES

"In Engineering, It's the PEOPLE that Count"
The C. W. NOFSINGER Co.
307 East 63rd St. • Kansas City 13, Missouri
Phone BAltimore 1-4146
Engineers and Contractors for the Petroleum and Chemical Industries

VENEZUELAN OIL SCOUTING AGENCY
Reports—Maps—Newsletter
Cable: VOSA, Caracas N. VanMiddlesworth
Mail: Apartado 3963 Phone: 54 48 02

Oil Should Solve Its Own Problems

IT DOESN'T SPEAK WELL for the oil industry when it has to depend on others to correct its mistakes—as it does all too frequently.

Last week a state agency—the Texas Railroad Commission—was forced to step in and order a drastic reduction in the March crude allowable, in the hope of preventing an economic collapse of the domestic oil industry.

It was a move that wouldn't have been necessary had the industry months ago remembered its bitter lessons of past years. On another occasion, 1952, the industry was bailed out of a serious oversupply position by a labor union. It called a strike during May—the most convenient time for a big hunk of the nation's refining capacity to be closed down.

And in other years state conservation agencies in Texas and other states rescued the industry from financial ruin. In 1939, six southwestern states had to halt all production.

WHETHER THE CUTBACKS JUST ORDERED in Texas and a few other states will solve the oversupply problem remains to be seen. It would be particularly tragic if the actions fail to correct the problem.

For, as spring approaches, demand enters its normal seasonal decline. It may well be that the cutbacks in domestic production are too late. If that should be the case, the price structure quite likely will collapse, to the benefit of no one—producers, refiners, marketers, and particularly consumers. The vitally needed exploration for new reserves will suffer a serious set-back—one from which it may never recover.

The oil industry's real problem is that it does not seem to be able to live with its available capacity. Because of its essential nature, the industry needs a certain amount of spare capacity to meet certain emergencies, such as was created with the shutdown of the Suez Canal.

But it is difficult to conceive of any industry—particularly such an essential one as oil—that seemingly tries its best to overproduce itself into serious economic consequences. A growing number of producers and refiners say they are flirting with bankruptcy. Undoubtedly, serious damage has already been done to the nation's exploration program. The downturn in drilling last year and so far this year confirms this.

THE INDUSTRY ITSELF must prevent its perennial oversupply gluts. Because if it doesn't, it could easily reach the point where the next corrective help would come from the federal government, which might decide to help itself to the entire oil industry—solving the oil men's problems forever.

HOW MUCH BETTER?

How much better is a job well done? How do you weigh the worth of a merely adequate cementing job against the value of the best available? For more than 34 years, Halliburton has set but one standard for its cementing service: the best that research and experience can produce. And, like all quality commodities, its value is remembered long after its cost is forgotten.

HALLIBURTON OIL WELL CEMENTING COMPANY

DUNCAN, OKLAHOMA

Pioneered and perfected by Hughes — Tri-Cone rock bits set the standard of performance the world over. Back of each Tri-Cone bit is the industry's greatest rock bit experience . . . plus a half century of laboratory and field research. Wherever you drill, Hughes bits — either regular or Jet — are available in the sizes and types best suited to your particular drilling requirements. And of this you can be sure — the bits you get will incorporate the very latest in rock bit improvements!

HUGHES TOOL COMPANY

* HUGHES OWV – THE VERSATILE BIT – DRILLS EITHER MEDIUM SOFT OR MEDIUM HARD FORMATIONS